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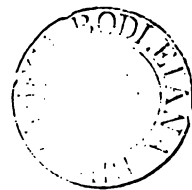
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THE JOURNAL
OF
SPECULATIVE PHILOSOPHY.

Vol. V.

EDITED BY WM. T. HARRIS.



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P R E F A C E.

In the fifth volume of this Journal we have commenced the translation of Hegel's extensive notice of Aristotle, from the second volume of the History of Philosophy. We hope to complete this in the sixth volume, and to add a translation of the account there given of the Sophists and Socrates. This with the article on Plato, already printed in the fourth volume, will form, unless we are mistaken, an exceedingly valuable key to the philosophy of Greece. The appearance of Jowett's excellent translation of Plato in England and its republication in this country will do much to revive the study of that great teacher of Philosophy. In Germany, Aristotle is at present the object of the deepest study. Whole troops of scholars and thinkers are critically sifting his works and reconstructing his system in the light of the psychological-ontology of Kant and Hegel, and a two-fold good is thereby effected. First, Aristotelian Philosophy is thereby resuscitated and exhibited to the world in its vastness of design and the profundity of its grasp—proving to be modern enough for the most “progressive” thinker, and at the same time as old and deep as the institutions of our civilization. Secondly, this application of German philosophic thought to Aristotle furnishes the best means to thinkers of other nations for a proper understanding of German Philosophy itself. Christian Theology and the technics of formal Logic and the Sciences have made Aristotle accessible in some measure to the thinkers of all nations. Through what is understood of Aristotle, an easy road is to be found by these thinkers into the expositions of the Aristotelian doctrines by the German philosophers. The identity of results of Greek and German thinking will become apparent, while the methods will mutually illustrate each other; or rather—we think one would be forced to acknowledge that the German method includes and transcends the Greek method. In the psychological procedures of Fichte and Hegel, the forms of thought—categories and ideas—are so closely seized in the mental process that their exact definitions and peculiarities of function have been scientifically determined. It is indeed almost peculiarly a German undertaking—this determination of categories as active processes or functions of mental activity. The sub-

jective aspect of German labors gives way to a sternly objective one as soon as they are applied to real provinces. Aristotle's "matter and form," "potentiality, actuality, and entelechy," when explained by these German commentators, who have been trained in the school of Fichte and Hegel, become sharply defined "tools of thought," and their wonderful objective validity is fully vindicated.

In the articles expository of "Kant's Ethics," the "Spiritual Principle in Morals," as well as in the translation of "Hegel's Outlines of the Science of Rights, Morals, and Religion," in Vol. IV. of the Journal, are to be found sketches of systems of practical Philosophy which will be further unfolded in future numbers.

The articles translated from Leibnitz are of unusual interest if read in connection with the "Monadology" (Vol. I. Jour. Sp. Phil.) "The Meditations of Descartes," translated and published complete in Vol. IV., with Introduction and Preface in the present volume, furnish the reader with a complete account of the first voyage of discovery of modern speculative thought in its independent capacity. Fichte's "Facts of Consciousness" are "Meditations" of a later and maturer age than those of Descartes, and yet in the same method.

The articles from Schopenhauer will be welcomed by all who have known that eccentric genius only by reputation. The entertaining character of his style will attract readers who are repelled from Fichte and Hegel.

The editor hopes to give in the next volume translations of important critical writings of Trendelenburg, the well-known Aristotelian and critic of Hegel.

It is of interest to mention the early publication in this country (Scribner & Co., New York) of the translation of Ueberweg's History of Philosophy by Professor George S. Morris. The translation of Ueberweg's Logic is expected at the same time in Edinburgh. While his works are thus finding their way into the hands of English readers, we are pained by receiving the announcement of the death of Dr. Ueberweg at Königsberg.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.

Vol. V.

January, 1871.

No. 1.

THE CONCRETE AND THE ABSTRACT.

It is a prevalent error to confound the Speculative with the Abstract, and to suppose that the Concrete is a realm which Philosophy does not reach.

The abstract in its usual signification includes whatever is the product of analysis. Separation, isolation, has been at work, and what is cut off from the living reality is "abstract."

Metaphysics is supposed to deal with abstractions—ideal essences or phases that have been sundered from concrete wholes by analytic reflection.

Taking one step further in the same direction, one may say that the total or the whole is concrete, and that the partial or incomplete is abstract. Any one who represents to himself a partial phase of something as a true conception of it, deals only with abstractions, and deserves to be called "visionary." So, on the contrary, one who deals with things as wholes or takes them exhaustively, has a concrete mind, and is, in a proper sense of the term, "speculative."

For it must be noted that the speculative philosopher claims synthetic thought as his province. His object is to return from the abstract to the concrete. His instrument and method is the dialectic. All partial and incomplete somethings exhibit in their defects their presuppositions. In order to be just what they seem to be, other existences are involved, and when we trace out these implications we find that things exist only through the agency of a *system* or organism. This

ascent from what is directly given, or immediate to the whole of which it is a part or phase, is the dialectic movement, and is the occupation of Speculative Philosophy. It is twofold.

I.—*Abstractions of Sense.*

It has to deal with the abstractions of the senses. The senses cannot attain of themselves to concrete wholes. Mere properties and qualities, mere effects and results, the external realm of manifestation,—if we concede that these are sensuous, yet they are not united by the senses. The isolated multiplicity is not the concrete and true. Those who are immersed in sensuous consciousness, and who reflect least, are the people to regard as existing separately and independently things which are known by reflecting people to be dependent on relations. They are prone to ignore the realm of law or “essential relation,” and to give wide validity to chance in their world-scheme. Their conceptions of the world and of the real things in it are very crude, very partial, and incomplete; and we may well call them *abstract*, for they leave out essential elements, and cling to one or more phases which they have accidentally seized.

II.—*Abstractions of Reflection.*

The first activity of thought awakens in the mind of the individual as the perception of relations; at first mere external, accidental relations, not affecting the nature of the objects he perceives; afterwards, essential relations.

Sensuous objects that before seemed to be independent and complete in themselves, now are found to be composite, and to relate on all hands to outlying spheres of being. The gravity of the stone is its assertion of dependence upon all the rest of the universe. Blot out of existence the smallest piece of matter on the farthest star, and the weight of this stone would be at once changed.

Analytic reflection occupies itself with noting and recording these relations. It forms a world of abstractions for itself—abstract ideas. These abstract ideas are truer than the sensuous ideas which they supplant—truer in that they underlie those sensuous ideas as their logical conditions. The physicist who deals with such abstractions as *matter*, *force*,

and *law*, is a deeper and truer thinker than the one who only knows that this fossil was found in that layer of rocks, or that the explosion of the powder heated the gun, &c. "Law" states the *essential relation*, and hence is universal and abides, while the particular instance of the senses begins and ceases. That things exist in relation—otherwise stated—means: things are partial phases of a systematic organic totality. To seize things in this totality should be the highest object of thought, and it is this which Science attempts.

The Speculative.

The abstract ideas of reflection when examined and sifted, or when placed in the crucible of the dialectic, exhibit their lack of universality, and hence their dependence upon more concrete or synthetic ideas. To find an idea which is sufficient for itself is the problem of Speculative Philosophy. Spinoza has very happily stated this problem at the commencement of his Ethics. His "substance" as that which is "self-comprised and conceived by and through itself alone" is this adequate or *concrete* idea which speculative thought must reach as its goal.

Philosophy versus Poetry.

One who knows Plato, Aristotle, or Spinoza, in their deepest thoughts, does not need to be told that Philosophy is not engaged "merely with the anatomy of thought." The formal logic, perhaps, might justly be accused of this; not so speculative philosophy.

Poetry or Art in general seeks to clothe the living idea of the whole in sensuous shapes of one sort or another: a divine function—dealing with "the splendor of the Eternal Verities." As compared with the mere analytic thinker, the poet may claim great precedence. His task is a creative one, while the abstract or metaphysical thinker is manipulating dead results, the *caput mortuum* of analysis and reflection. But certainly in this respect the poet has no prestige over the speculative thinker. Both have the same task so far as creative activity is concerned. The philosopher elevates to concreteness the abstractions of reflection, while the poet performs the same functions for the abstractions of sense. The common mind

sees the world as isolated prose realities, bereft of spiritual truth and wholeness; the poet comes and presents his kaleidoscope, wherein everything is seen in its threefold relation with the totality. Beauty is the result. Reflection sees the world as abstract relations, isolated spectral nonentities—all the juice of sensuous life squeezed out, and none of the transparency of spiritual life attained; the philosopher's stone (which is the dialectic) transmutes these into gold; makes these dead abstractions living processes of arrival at the Truth. Thus the poet and the philosopher seek to replace the part by the whole, the imperfect by the perfect. And the extraordinary tribute which Goethe pays to Spinoza, Dante to Aristotle, and Emerson to Plato, is a recognition of this identity of function, though on different planes. The abstractions of sense are transcended and elevated into eternal verities in the poet's vision; the abstractions of reflection are transcended and complemented by speculative insight, and thus become archetypal, demiurgic, "creative with the whole."

Speculative versus "Positive" Philosophy.

If one examines the materialistic philosophies of the day, he will find them fast gathering into one flock around the banner of "Positivism." This stage of thought is best characterized as a confusion of perception and inference—a mingling of immediateness and mediation. The French materialism of the eighteenth century confounds the abstractions "matter and force" with sensuous reality. Our Comtians, the Positivists of to-day, mix up the vague idea of Law with immediate concrete things. They do not see that the logical outcome of their doctrine is an abstract idealism. (1) They set up Law as the absolute; (2) but Law is a mere abstract form that abides under the change of phenomena; (3) the phenomena begin and cease, and there is nothing of them but this beginning and ceasing—nothing that stops or stays even for a moment, except the form of this abstract law. (4) Hence Law acts negatively on all that exists in the world, reducing each and every thing to something else and destroying its identity. (5) The real world accordingly cannot be the world of the senses, for that which *destroys* the world of

the senses is more real than it. Law is, therefore, more real than the world spread out before the senses. (6) But law is a generalization, an abstraction, hence an ideality (no one would contend that it is a PHYSICAL THING); and hence the ground for calling the positivist an abstract idealist.

Positivism as abstract idealism is repugnant to all sound thinking. Its naive, half-conscious asseverations of utter devotion to "positive science" are amusing when compared with immediately subsequent utterances, in which it sets up some half a dozen abstract categories of reflection, and proceeds to measure out the world on these as indisputable concrete truths. The atomic theory—a remote inference of reflection—is handled as though identical in directness with the perception of qualitative differences. Its supreme doctrine of Humanity swallows up the individual—his immortality and freedom—at one gulp.

The depth of a system of thought has an infallible test in the manner it disposes of institutions. When one man, or set of men, get up on the house-tops and proclaim a new doctrine for all mankind, Civilization answers back: "What do you make of my creations—the institutions of realized intelligence—the family, society, the state, and religion?" If the answer comes again: "Try my experiment of doing away with all these, or of substituting contrivances of individualism for them," no heed is given to the pseudo-prophetic voice. For the forms of civilization—the laws and usages which constitute the warp and woof of its institutions—are not the vain thought of abstract theorists, but the grim necessity in which the human will has made possible the exercise of its freedom. For necessity and freedom are harmonized in institutions alone, and without institutions man is a savage and nothing more. The form of freedom is to the child and uncultured adult a constraining necessity; to the partly cultured man it becomes an ethical or moral law; to the clearest insight and highest culture it becomes spontaneous, independent choice and volition, what Spinoza and the Mystics call Love.

REMARKABLE CASES OF MEMORY.

[For the following communication we are indebted to W. D. Henkle, State Commissioner of Public Schools in Ohio.—EDITOR.]

I have recently met with a peculiar case of memory in this State, an account of which may prove of interest to the readers of your magazine, especially to those particularly interested in mental phenomena. Although it is probably true that we never forget anything, yet it is certain that there are millions of things that we do not remember. Perhaps the case here presented should be called a remarkable case of recollection rather than of memory. I have preferred to give a detailed statement of the questions asked to test Mr. McCartney's claims and his answers to them, leaving your readers to do their own theorizing. I have referred to some things that the careless reader may consider of no consequence, but which may be very suggestive to the scientific investigator.

A few well-known instances of remarkable memory are here given for the sake of comparison. The statements made in reference to some of these have always seemed to me to be exaggerations. I have never believed that Mithridates, king of Pontus, knew all of his 80,000 soldiers by their right names; that Scipio knew all the inhabitants of Rome; that George III. never forgot a face he had once seen, nor a name he had once heard; that Lord Granville could repeat from beginning to end the New Testament in the original Greek; that Cook, the tragedian, committed to memory all the contents of a large daily newspaper; that Mirandola could commit to memory the contents of a book by reading it three times, and that he could frequently repeat the words backwards as well as forwards; that Thomas Cranmer committed in three months an entire translation of the Bible; nor that Bossuet could repeat the whole Bible, all of Homer, Virgil, Horace, and many other works. It may be true that Racine could recite all the tragedies of Euripides if he spent considerable time in learning them.

The following cases have been referred to in works on men-

tal philosophy, but several of them seem to be too strongly stated.

Gibbon said that all the royal families of Europe were remarkable for their memory of faces and proper names. Marquis de Bouillé said of Gustavus III., king of Sweden, that "his memory was singularly retentive; a thing very common in princes, and which seems almost like a sixth sense bestowed upon them by nature." In a letter from Kiof to the Marchioness de Coigny, Prince de Ligne said, "The empress [Catherine II. of Russia] received me as if I had left her six days, instead of six years, ago. She recalled to my mind a thousand things which monarchs alone can remember, *for their memory is always excellent.*" Bailly, in his Eulogy of Leibnitz, said, "He made extracts from every book he read, and added to them whatever reflections they suggested, after which he laid his manuscript aside, and never thought of it more. His memory, which was astonishing in its powers, did not, as in most men, feel itself disburthened of the knowledge which he had committed to writing; but, on the contrary, the exertion of writing seemed to be all that was requisite to imprint it on his memory forever." Condorcet, in his Eulogy of Euler, said, "A few years afterwards, Euler was overtaken by the calamity which he foresaw and dreaded; but, happily for himself and for the sciences, he was still able to distinguish large characters traced on a slate with chalk. His sons and his pupils copied his calculations, and wrote, as he dictated, his scientific memoirs; from the immense number of which, combined with the singular genius frequently displayed in them, it would appear that, in consequence of the absence of all external distraction, and the new energy which this constrained recollection gave to his faculties, he gained more than he lost, both as to facility and means of labor, by his impaired vision."

"It is well known to all who have the slightest tincture of mathematics, that there exist in the modern analysis, (and Euler himself greatly multiplied their number,) *formulæ* of a common and almost daily application. These he had always present in his mind, and repeated in conversation with such a readiness and accuracy, that D'Alembert, who saw him at Berlin, spoke of his powers in this respect as scarcely credible to

any but to eye-witnesses. His facility in carrying on arithmetical computations without the aid of writing was, if possible, still more astonishing. With the view of exercising his little grandson in the extraction of square and cube roots, he is known to have formed to himself a table of the first six powers of all numbers from 1 to 100 and to have preserved it exactly in his memory. On one occasion, two of his pupils having calculated as far as the seventeenth term of a converging series, and their results differing one unit at the fiftieth figure, they communicated this circumstance to their master. Euler went over the whole calculation in his head in order to decide the dispute, and his decision was found, on examination, to be perfectly just."

It is also said of Leibnitz and Euler that they "could repeat the whole of the *Æneid*."

Dr. Wallis, the celebrated mathematician, said that "he himself could, in the dark, perform arithmetical operations, as multiplication, division, and extraction of roots *to forty decimal places*; particularly, that, in February, 1671, he proposed to himself, by night in bed, (at the request of a foreigner,) a number of fifty-three places, and found its square root to twenty-seven places, and that, without ever writing down the number, he dictated the result from memory twenty days afterwards."

Dugald Stewart says, "I have known more than one instance of an individual who, after having forgotten completely the classical studies of his childhood, was yet able to repeat with fluency long passages from Homer and Virgil, without annexing an idea to the words that he uttered."

We are told that Themistocles could call by name the 20,000 citizens of Athens. Pliny, Quintilian, and other Latin authors, say that Cyrus knew the name of every soldier in his army; but Xenophon, from whom alone they could derive accurate information, merely says that he knew the names of his officers or captains. It is said that Cyneas, an ambassador from Pyrrhus, saluted by name, on the day after his arrival in Rome, all the senators and persons of equestrian order. Hortensius reproduced from memory, after sitting a whole day at a sale, the name and price of each article sold, as well as the name of the purchaser, with such accuracy, that he

agreed in every particular with the record which had been kept by a notary.

After a missionary (Mr. Moffat) had preached a long sermon to a large number of African savages, they divided into groups to discuss the subject. He says, "While thus engaged, my attention was arrested by a simple-looking young man, at a short distance. The person referred to was holding forth with great animation to a number of people, who were all attention. On approaching, I found, to my surprise, that he was preaching my sermon over again with uncommon precision and with great solemnity, imitating as nearly as he could the gestures of the original. A greater contrast could scarcely be conceived than the fantastic figure and the solemnity of his language—his subject being eternity, while he evidently felt what he spoke. Not wishing to disturb him, I allowed him to finish the recital; and, seeing him soon after, told him he could do what I was sure I could not—that was, preach again the same sermon *verbatim*. He did not appear vain of his superior memory. 'When I hear anything great,' he said, touching his forehead with his finger, 'it remains there.'"

Casaubon thus speaks of Joseph Scaliger: "There was no subject in which any one could desire instruction which he was not capable of giving. He had read nothing (and what had he not read?) which he did not forthwith remember; there was nothing so obscure or obsolete in any ancient author, Greek, Latin, or Hebrew, with regard to which, when interrogated, he could not at once give a reply. He was at home in the history of all nations and all ages, the successions of government, the affairs of the ancient church; the properties, differences, and names, whether ancient or modern, of animals, plants, metals, and all natural objects, he knew accurately. With the situations of places, the boundaries of provinces, and their division at different times, he was perfectly familiar. He had left untouched none of the severer studies or sciences. So extensive and accurate was his acquaintance with languages, that if, during his lifetime, he had made but this single acquirement, it would have appeared miraculous." He committed Homer in twenty-one days, the remaining Greek poets inside of four months, and all the

other Greek writers inside of two years. Sir Wm. Hamilton says, "taking him all in all, he was the most learned man the world has ever seen."

Hamilton says that Grotius and Pascal "forgot nothing they had ever read"; that Donellus "knew the *Corpus Juris* by heart"; that Muratori "in making quotations had only to read his passages, put the books in their place, and then write from memory the words." Niebuhr, the historian, was employed in his youth in one of the public offices of Denmark; part of a book of accounts having been destroyed, he restored it from his recollection. Sir Wm. Hamilton, when conversing with Sir James McIntosh, mentioned Muretus, whereupon Sir James recited some considerable passages from his praise of the massacre of St. Bartholomew. Daguesseau was able to recite correctly a poem of tolerable length after hearing it once. On hearing a man of letters quote incorrectly an epigram of Martial's, he recited the whole, although he had not read Martial since he was twelve years of age. Boileau recited to him a satire that he had just composed; Daguesseau told him coldly that he knew it perfectly well, and repeated the whole of it twice. Calvin is said never to have forgotten anything he wished to remember. Thomas Dempster, a learned Scotchman, who read fourteen hours every day, declared that he never knew what it was to forget. A gentleman to test the memory of Magliabechi lent him a manuscript, and, after it had been returned, pretended that it had been lost, whereupon Magliabechi repeated exactly every word of it. In conversation, he always mentioned the volume and page of the work quoted. Fuller indicated correctly, backwards and forwards, every sign on both sides of the street after going once from Temple Bar to the farthest part of Cheapside. M. de Longuerue, whose erudition D'Alembert said "was not only prodigious but terrible," wrote from memory in a year, a historical description of France, with no aid except that derived from some maps. Hippias, in Plato, boasted that he could repeat five hundred words after hearing them once.

Seneca, the rhetorician, says that he could repeat in order two thousand names read to him, and that he repeated in reverse order two hundred unconnected verses that had been

pronounced by the pupils of his preceptor. Muretus says that he discredited this story until he tested Molino, a young Corsican, residing at Padua as a student of civil law. In the presence of a considerable number of distinguished persons in a saloon, Muretus began to dictate words, Latin, Greek, barbarous, significant and non-significant, disjoined and connected, until he wearied himself, the young man who wrote them down, and the whole company, all becoming marvelously tired, Molino alone alert and fresh wanted more words. Muretus said that he would be satisfied if he repeated half of what had been taken down. Molino, after a brief pause, repeated the words in exact order and without the slightest hesitation, and then repeated them backwards. Next he gave the first, third, fifth, and so on. He repeated them exactly in any order asked. He declared that he could repeat in this way 36,000 words, and remember them a year. He said he learned the art from a Frenchman. It was, no doubt, done by some species of mnemonics or artificial memory.

Dr. Leyden could repeat a long act of parliament, or any similar document, after having once read it; but he could not recollect a particular point without repeating the whole. Dr. Gregory, Dugald Stewart, and Sir Wm. Hamilton, each had an excellent memory.

Daniel McCartney was born two miles from Mt. Pleasant, Westmoreland county, Pennsylvania, September 10th, 1817. He moved in 1833 to Cardington, Morrow county, Ohio. He went in 1854 to Tipton, Cedar county, Iowa, which place he left in 1862 for Wilton, Muscatine county, Iowa. He returned to Ohio in 1869, going to Iberia, Morrow county. He went to Salem, Columbiana county, Ohio, April 29th, 1870, where he was residing when I first saw him in June. His sight is exceedingly defective. His eyes were operated upon in Pittsburgh, in 1830, by Dr. Brooks, but with no beneficial result. In 1862 he first discovered that he could see large print, which he can now read by holding it about two inches from his eyes. His health has always been good, except that he has had several attacks of ague. His father was born September 21st, 1791, and died in 1837. His mother was born July 1st, 1794, and is still living in Iowa. They had seven children,

the two oldest being girls and the others boys, Daniel being the oldest of the latter. The sight of the brother next to Daniel in age is nearly as imperfect as Daniel's. None of his other relatives have defective vision. All the children married except Daniel, and all are still living except one brother, who died a few days after reaching home from the army on a sick furlough. Mr. McCartney claims that he can remember the day of the week any given date was since January 1st, 1827, or since he was 9 years and 4 months old, a period of 42½ years, and that he also remembers what kind of weather it was where he was on each of the more than 15,000 days.

My first interview with him occurred in the office of the *Salem Republican*, the editor of which, the Hon. J. K. Rukenbrod, had been employing him to turn the wheel of the printing press on two days of each week. He had just given a newspaper notice of Mr. McCartney's claim. This interview occurred on the 8th of June. I asked him about a dozen questions as to the days of the week certain days of the month in different years occurred. For most of them I used the Ohio House Journal, which at the head of each page gives the day of the week as well as the day of the month. His answers were prompt and correct, in one case correcting an error of the printer. I kept no notes of the first interview, but I had afterwards two other interviews, the first June 30th, at which I took the following minute notes :

Question. Have you any rule except that of association for telling the day of the week any given date was ?

Answer. I have no rule except by circumstances. I never kept any record, or had any to keep it [*sic*] for me.

Q. With what date does your memory begin ?

A. January 1st, 1827. I remember a great many dates before as in 1821 and 1822, but not every day.

The following indicates the nature of the examination. After the day of the week was given, I asked, "What kind of weather was it?" After this I asked for the circumstances. The answers below give the three answers as one, in order to save time and space. In each case, the time that elapsed between the question and its answer is indicated. This refers to the day of the week alone. The answers as to weather and circumstances were immediate. The only delay in the ask-

ing of the triplet of questions for each date was caused by the copying of answers between the questions.

Q. October 8, 1828?

A. (2 seconds.) Wednesday. It was cloudy and drizzled rain. I carried dinner to my father where he was getting out coal.

Q. February 21, 1829?

A. (2 sec.) Saturday. It was cloudy in the morning and clear in the afternoon; there was a little snow on the ground. An uncle who lived near sold a horse-beast that day for \$35.

Q. October 13, 1851?

A. (15 sec.) Monday. It was kinder [*sic*] pleasant-like weather. I stayed all night Sunday night at my brother's, and next day I went to the depot in Cardington to saw wood.

Q. July 1, 1863?

A. (1 sec.) Wednesday. Sultry and cloudy. I kept the baby of the family I lived with, while the man and his wife went to Tipton to buy goods.

Q. February 23, 1847?

A. (10 sec.) Tuesday. It was cloudy and there was a little snow on the ground. It was a particular scrape [said with some hesitation, a lady being present taking down his answers]. Mother was sent for, but was not at home.

Q. Do you know of any great event that happened that day? A. No. I said, "the battle of Buena Vista." He replied, "I never knew the dates of the Mexican battles. I could not read."

Q. March 5, 1849?

A. (2 sec.) Monday. It was a disagreeable sloppy day. Gen. Taylor was inaugurated that day. I heard at the time, that the Bible Washington was sworn in on was carried from New York to Washington to use at Taylor's inauguration.

Q. April 15, 1861?

A. (3 sec.) Monday. It was bright and clear. Fort Sumter was taken the Friday before. I was cutting stove wood for a man.

Q. May 8, 1846?

A. (2 sec.) Friday. It rained some. The Saturday before, I attended a quarterly meeting in Iberia. [He is a Methodist.]

Q. December 2, 1859?

A. (2 sec.) Friday. It was very cold and raw. On the Tuesday before, it began to grow very cold, and continued cold until Saturday, when it began to moderate. John Brown was hanged on the 9th, a week later. Q. Are you certain? A. I am not positive. Q. Do you remember anything in particular that occurred that day? A. Nothing particular. I remember it was pretty cold getting in wood.

Q. April 12, 1861?

A. (2 sec.) Friday. It was pleasant but cloudy. I went from Wilton to my brother's, ten miles away. Q. What else happened that day? A. Fort Sumter was taken.

Q. April 9, 1865?

A. (5 sec.) Sunday. It was cloudy in the afternoon. Lee surrendered that morning.

Q. December 10, 1832?

A. (2 sec.) Monday. It was open, soft, clear weather. The day before, my father brought home a strange book. Q. What was it? A. Colby's Journal.

Q. December 28, 1835?

A. (2 sec.) Monday. Cool but pleasant. We were chopping in the clearing, and came near falling [felling] a tree on one of the boys.

Q. June 15, 1836?

A. (2 sec.) Wednesday. [I had previously calculated the day to be Tuesday. I recalculated and found that I had made a mistake.] It was very clear, hot weather. The folks that I lived with had a swarm of bees that day.

Q. December 25, 1837?

A. (2 sec.) Monday, Christmas day. It was raw, but not very cold. My father was buried that day.

Q. April 4, 1841?

A. (3 sec.) Sunday. It was rainy and muddy. Gen. Harrison died that day.

Q. July 21, 1861?

A. (2 sec.) Sunday. Very hot and sultry. It was the day of the Battle of Bull Run.

Q. February 16, 1862?

A. (2 sec.) Sunday. It was rather cold with snow. The Friday before was Valentine's [pronounced by him *Valentine's*] day. Some fort was taken that day. [After thinking

a while, he said Fort Henry. I mentioned Fort Donelson; he said that was the one.]

Q. September 2, 1864?

A. (10 sec.) Friday. It was very pleasant and warm. The day after, there was a Sunday-school celebration in the grove.

Q. May 10, 1865?

A. (7 sec.) Wednesday. It was kinder wet; it rained the day before. On that day I travelled the same road I did the day Fort Sumter was taken.

Q. December 18, 1865?

A. (Instantly.) Monday. A little snow on the ground, not cold. The Thursday before, a widow woman [*sic*] took her daughter out to the prairie to live.

Q. July 16, 1866?

A. (Instantly.) Monday. A very hot day. I sawed wood that day, and the next went out into the country to hoe potatoes.

Q. February 24, 1868?

A. (5 sec.) Monday. Q. Are you sure it was Monday? [My note was another day.] A. I am sure it was Monday. [A recalculation showed him to be correct.] It was wet, chilly weather. The Sunday before, I went up to my brother-in-law's and stayed all night. The next morning it rained.

Q. May 26, 1868?

A. (10 sec.) Monday.* It was pleasant warm weather. [This was after a little hesitation.] On Sunday I was at Sunday school. I remember the question they had. Q. What was it? A. Where is the ostrich mentioned in Scripture? Do you know? [to me.] I replied, "No." He then said, "In Job 39: 13."

Having no more notes as to dates, I asked no more questions of the kind just given. Mr. McCartney then said he could answer questions in arithmetic. I asked him how he performed the operations. He replied that he had studied out a variety of ways.

Q. What is 32 times 45?

A. (2 sec.) 1440. I multiplied by 5 and then by 9.

Q. What is 93 times 97?

A. (12 sec.) 9021. From 9300 I took away 3 times 93.

* See correction hereafter.

Q. What is 53 times 84?

A. (8 sec.) 4452. Twice 53 is 106; 10 times 106 is 1060; adding 53 gives 1113; multiplying by 4, 4452.

Q. What is 123 times 456?

A. (35 sec.) 56,088. Multiply 456 by 100; then 23 by 400; then add; multiply 23 by 56 and add.

Q. What is 3756 times 182?

A. (4½ minutes. He became confused.) 683,592.

Q. What is the sum of 26, 67, 43, 38, 54, 62, 87, 65, 53, 44, 77, 33, 84, 56 and 14? (One minute occupied in calling the numbers.)

A. (Instantly.) 803.

Here he asked me whether I understood geography pretty well. I answered, "Yes"; and asked him whether he understood geography. He said he once went to a geography school. Q. A singing geography school? A. Yes. Q. When? A. In 1852. I know every important capital in the world. I believe I could bound all the States by thinking.

Q. What is the capital of Vermont? A. Montpelier.

Q. What is the capital of Texas? A. Austin.

Q. How do you bound Tennessee?

A. It is bounded on the north by Kentucky and a small part of Virginia, on the east by North Carolina, on the south-east by Georgia, on the south by Alabama and Mississippi, and on the west by Arkansas and a small portion of Missouri.

About three days later I had another interview with Mr. McCartney. The following were the questions asked and the answers given:

Q. July 1, 1827?

A. (1 sec.) Sunday. A bright, clear nice day. I see [saw] a woman fall off a cherry-tree and knock her wrist out of place.

Q. September 10, 1830?

A. (5 sec.) Friday. Nice clear day. That was my birthday. Q. Do you remember anything else that happened that day? A. I remember several things. I cleaned out the stable for one. I was in Pittsburgh then. [My notes incorrectly gave the day as Tuesday.]

Q. February 28, 1831?

A. (3 sec.) Monday. It was very muddy. There had been a deep snow that had been on from January; it was going off. It was clear. We carried sap from the sugar-trees, and two girls came to our house visiting that evening.

Q. May 30, 1833?

A. (10 sec.) Thursday. It was cloudy, hazy-like, but you could see the sun most of the day. That was the spring before we moved to Ohio. I remember that my father said he would not move to Ohio unless he got stouter, as it would be foolishness if he could not work.

Q. December 1, 1834?

A. (5 sec.) Sunday. Q. Are you certain? A. Yes. The 21st you said? Q. No; the 1st. Instantly he said "the 1st was *Monday*. It was open weather, not very cold for the time of year, cloudy. Mother was sick then; they could not move her only in a sheet; they moved her the day before (Sunday), and on Monday my sister went to Galion for some medicine."

Q. January 29, 1828?

A. (7 sec.) Monday. Sunday it was pretty cold and there was some snow on the ground, and on Monday it began to thaw. It was clear and pleasant. The night before, there was preaching at our house, and the preacher stayed until next morning. Q. What was the preacher's name? A. Baker—Matthew Baker.

Q. October 5, 1839?

A. (10 sec.) Saturday. It was cloudy but pleasant. I was cutting up a piece of corn for a man by the name of Rowe that lived in Morrow county. You have heard of lawyer Rowe that used to live in Marion, didn't you? [I answered, "No."]

Q. March 15, 1840?

A. (5 sec.) Sunday. It was somewhat sloppy weather—warm and pleasant, however, for the time of year. One of our neighbors had a cow out in the woods with a young calf, and our boys went and helped drive her home.

Q. August 31, 1842?

A. (10 sec.) Wednesday. It was pleasant, warm, and clear. There were seven or eight of us binding oats for a man in a field close by our house. Q. Was not that late for oat-

harvest? A. It was not so late as I have seen it; the oats had been cut about two weeks. In them times they had to let the oats lay out to let them rot, so as to pound them out [with a flail].

Q. April 1, 1843?

A. (2 sec.) Saturday. It was uncommon muddy. It was ugly getting around. There was a report or rumor going round that the Millerites had prophesied that the world was coming to an end that day; that it was going to snow, and the snow was going to turn into oil. Some on getting up that day said they saw neither oil nor fire. Q. Was that the year of the comet? A. Yes; the comet was in the winter before. Could you see the comet? *Reply.* Yes, yes; I could see it.

Q. June 23, 1844?

A. (5 sec.) Sunday. It was clear, hot weather. I stayed with a woman's children while her and her husband went to meeting.

Q. November 7, 1845?

A. (10 sec.) Friday. It was kinder pleasant-like weather, but there had been a wet spell and it was muddy. I went about two miles to one of our neighbors by the name of Fletcher, and coming home he gave me a basket of turnips.

Q. December 3, 1848?

A. (3 sec.) Sunday. It was very wet, muddy weather. Mother went away to my brother-in-law's on a visit; I stayed and kept house till she came home in the evening.

Q. January 17, 1850?

A. (2 sec.) Thursday. It was not a bad day for the time of year; it was open-like weather, pleasant; it was cloudy. Wednesday evening I was at a German prayer meeting; I stayed at the house where the meeting was that night, the next day, and the next night.

Q. February 29, 1852?

A. (10 sec.) Sunday. It was warm, pleasant weather for the time of year. That day there was one of these spiritual mediums over at my brother-in-law's. Some of them went over; I did not go; I never would encourage it that much.

Q. October 1, 1853?

A. (7 sec.) Saturday. It was cloudy weather and drizzled

a little rain in the evening. Me and a boy was cutting up corn in a cornfield there at Cardington.

Q. August 9, 1854?

A. (5 sec.) Wednesday. It was very warm, dry weather; oh, it was uncommon dry! That is the time that I was out here in Columbiana county, and we helped take up Dave Camp's oats, about five miles south of this on Cold Run.

Q. April 19, 1855?

A. (3 sec.) Thursday. Where I was in Iowa, it rained the night before and that morning some; it was kinder wet and blustery all day. The night before, there was a moving family stayed over night at our house; they came when it was raining, and left next morning.

Q. February 2, 1856?

A. (2 sec.) Saturday. It was most awful cold; it was the coldest day I ever see in my life. It was bright, clear weather. My brother's wife was sick; and some said there would be six weeks of winter yet, for if the coon came out he could see his shadow. The second day of February is what they call Candlemas.

Q. July 29, 1857?

A. (4 sec.) Wednesday. [My notes gave the day incorrectly as Thursday.] It was clear, pleasant weather. We went to cut our wheat, and found it was not ripe enough; we then went to help a neighbor cut his. Q. Was not that late for wheat-harvest? A. Yes; but in Iowa spring wheat is generally sown.

Q. June 11, 1858?

A. (5 sec.) Friday. It was uncommon wet weather in Iowa; the waters was high all around; you could hardly get around anywheres. The Baptists had a yearly meeting about thirty miles from us, and some of them went from our neighborhood, but they could not get over the waters.

Q. January 31, 1860?

A. (4 sec.) Tuesday. It wasn't very cold; there was some snow on the ground; it was cloudy-like weather. One of my brother's children had the scarlet fever, and they thought it wouldn't get over it, but that day it began to get better.

Q. May 17, 1867?

A. (8 sec.) Friday. It was a nice day where I was; it was

nice, pleasant weather. Nothing particular, only we were sawing wood there in Wilton for a man.

Q. March 11, 1851?

A. (5 sec.) Tuesday. It was a very wet time, rainy. It was just the next Tuesday after the first train of cars went along there by Cardington. Q. What day did the first train go by? A. The first train went by about the 6th day.

Q. April 17, 1827?

A. (2 sec.) Tuesday. It was a kinder cold, raw-like day—clear, mostly clear; there were some few clouds. The 15th was Easter Sunday, and on the 17th my aunt went to town. I lived at my uncle's. Q. Can you remember the earlier dates better than the later ones? A. I don't know as I can. I don't know but I can remember them dates away back there better than the recent dates.

Q. March 25, 1870?

A. (12 sec.) Friday. It was very sloppy, muddy weather. I was chopping wood at a sugar camp out there in Morrow county at my brother-in-law's; they was boiling sugar.

Q. May 15, 1836?

A. (3 sec.) Sunday. It was warm, pleasant weather. That was the first time I was ever at a Quaker meeting. Q. Do you remember anything else? A. I remember several things, but that was the most special thing. Q. Did anything remarkable occur on that day? A. Not that I ever heard of. Q. Was there not an eclipse? A. I do not remember of hearing of it.

Q. September 28, 1838?

A. (10 sec.) Friday. It was warm, pleasant weather, and very dry. My sister was married on the 29th, on Saturday. Q. Did you ever hear of an eclipse on that day? A. No; there was one on the 18th of September in that year. Q. Of sun or moon? A. Of sun; but it was not visible. It was so dry that they were looking for rain at the time of the eclipse, but it didn't come.

Q. May 26, 1854?

A. (2 sec.) Friday. There was an eclipse on the sun that day. It was very pleasant weather. We were working in the clearing, clearing off a piece to put in corn. The eclipse was in the evening along about 5 o'clock.

Q. June 11, 1862?

A. (5 sec.) Wednesday. It was very warm weather, clear. Nothing particular. We bought half a barrel of fish, and rolled it down from town to the house. I did hear about an eclipse that day, but it was not visible. Q. Was it of the sun or moon? A. It appears to me now that it was of the sun; I am not certain. I think it was of the sun.

Q. August 7, 1869?

A. (2 sec.) Saturday. It was nice, clear weather; but the day before it stormed like everything. That was the time of the big eclipse. The sun was eclipsed altogether about two minutes and a half there in Iowa. Q. When did the first eclipse occur that you remember seeing? A. I don't remember seeing any till the 7th of June, 1834. There was one on the 3d of April, 1829; there was one on the 26th of December, 1833; there were two in 1834; there was one on the 30th of November, 1834. I paid no attention to the eclipses. The next I remember was the 18th of September, 1838. Unless the eclipse was big or visible, I took no account of it. The next I saw was the 13th of November, 1845; that was on the moon. Q. Was the eclipse of 1829 of the sun or of the moon? A. Of the sun, on the 3rd of April.

Q. What is the cube root of 59,319?

A. (30 sec.) 39. To get the cube root of 59,319, I saw it could be divided by 9. I divided by 9 and then by 3; then I had 2197. I saw it was near the cube of 12 or 1728, so I tried 13. Q. How did you know it could be divided by 9? A. Any number that when the numbers are added can be divided by 9, the number is divisible by 9.

Q. What is the cube root of 79,507?

A. (17 sec.) 43. I thought it must be between 40 and 44; I know it was not an even number; I tried 43.

Q. What is the cube root of 117,649?

A. (5 sec.) 49. I knew that long ago.

Q. What is the cube root of 571,787?

A. (15 sec.) 83. I knew it must be between 80 and 88, because the cube of 80 is 512,000, and of 88, 681,472, which I remembered. I knew the root was not an even number; I tried 83.

Q. What is the cube root of 357,911?

A. (15 sec.) 71. That I could do without any work. The cube of 70 is 343,000. I knew about how that would go; but I thought I would try.

Q. What is the cube root of 110,592?

A. (2 sec.) 48.

Q. What is the cube root of 389,017?

A. (15 sec.) 73.

Q. What is the cube root of 4,741,632?

A. (3½ min.) 168. [While calculating this he was annoyed by the loud talking of some children.]

Q. What is the cube root of 18,609,625?

A. (3½ min.) 265. I divided by 5 three times; I got 148,977. I knew this must be somewhere near 50. I knew the root must be odd; I knew it could not be 52, so I tried 53 by cubing it. I multiplied 53 by 5.

After writing the above, I recalculated all the dates, and found them to be correct, except May 26, 1868, which my previous calculation had made *Monday*, and my note gave Mr. McCartney's answer as agreeing with it. I decided then to subject Mr. McCartney to a review of all the questions as to dates on the occasion of another expected visit to Salem. My third interview occurred July 15, Mr. Walter Campbell being present. Mr. Campbell is totally blind; he spent seven years in the Institution for the Blind in Columbus, Ohio, and afterwards graduated at the Western Reserve College at Hudson, Ohio; still later, he attended the law school of Harvard University.

In this review Mr. McCartney reproduced his answers as to dates, kind of weather, and circumstances, with the exceptions given below. His description of the weather was in other words, but in every case essentially the same, thus showing that he remembered distinctly the facts but not the words that he had previously used. The same may be said as to his reproduction of circumstances. In some cases he expanded the accounts, and in others he shortened them. Some of the days of the week were given in a shorter time and others after a longer time than on his first examination.

May 8, 1846? "I was cleaning flax for a man, and I could not go on, it was so wet." Do you remember anything else? He then gave the circumstance previously given.

December 28, 1835? "It was the next Monday after Christmas. Christmas was Friday. Mr. Henkle, was not that the day your father died?" I replied that I did not remember the day of the month he died, but he died in that year and month. I had incidentally alluded to my father's death when giving the date first. Do you remember anything else? He said he did not. After a few moments, he gave the circumstance previously given.

May 26, 1868? He gave at first Monday, and then without any hint he changed to Tuesday (the proper day). I told him he gave *Monday* before; he was under the impression he gave Tuesday. Was the weather the same on Tuesday as on Monday? "Not quite; it rained a little on Monday."

October 5, 1839? "I was threshing buckwheat." For whom? Rowe—George Rowe, who lived there above Iberia. I was cutting up corn that morning, but it got so wet I quit."

November 7, 1845? He said laughingly, "I was cutting pumpkins that day for pies." You did not tell me that before. He then told about the turnips.

December 3, 1848? "Nothing particular that day; but we killed our hogs the Friday before." Do you remember nothing else? "Nothing particular, except mother went off to see my sister that day."

February 2, 1866? He used the word *ground-hog* instead of *coon* as previously.

September 28, 1838? "You said there was an eclipse on that day. [I had incorrectly copied Sep. 28 instead of Sep. 18.] I thought it strange, as I knew there was one on the 18th."

May 26, 1854? He added, "I was down here in Columbiana county that day." [He visited Columbiana and Morrow counties in 1853 and 1854.]

June 11, 1862? "It was cloudy-like." I have written *clear*. "It was *clear* in the afternoon, but cloudy in the morning." [This was said with great promptness.] Did you hear of anything else? "It appears to me to me there was a battle or a skirmish." Was there an eclipse? "I did not hear of one." On reminding him of what he had previously said, he replied, "It appears to me I did."

After this review, which impressed us greatly as to Mr. McCartney's wonderful power, Mr. Campbell and I questioned

him very closely as to the train of thought that enabled him to give his answers ; in other words, we wanted him to *think aloud*. Our questions resulted in the following facts. He fixes the year by one or more prominent events of the year. He associated 1842 with the running of Corwin and Shannon for Governor of Ohio in the latter part of the year. "A good many events took place in 1845 that make it prominent in my mind. On the 4th of March was Polk's inauguration, and a protracted meeting commenced in the neighborhood that lasted about a week. May 28—there was a frost that night, and a frost three nights hand going. July 4—that was the time Col. Davenport was murdered on the island in the river between Rock Island and Davenport."

The days in the year are referred to certain days. These are Jan. 1, Feb. 2 [ground-hog and Candlemas day], Feb. 22, April 1, Easter, and Whitsunday seven weeks later, July 4, Sept. 10 [his birthday], Oct. 31 [Hallow-Eve], Dec. 1 [first day of the first winter month], and Dec. 25 [Christmas]. From these days he says he "runs down to the date given."

Whether McCartney was right in his description of the weather at the dates given above, I am unable to say. The review was a strong presumptive evidence that he was. This review was the first of the kind he ever had, and was entirely unexpected.

At the close of the third interview with Mr. McCartney, I tested him as to his verbal memory. I gave him slowly the following names, to be repeated by him in order, namely :— 1 Gen. Grant, 2 Gen. Washington, 3 Julius Cæsar, 4 Queen Victoria, 5 St. Paul, 6 Gen. Sherman, 7 Napoleon, 8 Daniel Webster, 9 William Pitt, 10 Henry Clay. With the last he stopped me, saying "that was enough." In repeating them, he failed at the sixth. He says he knows the words of about 250 hymns, and that he can sing about 200 tunes ; that he can remember a hymn after hearing it recited three times, provided he is interested in it.

My fifth interview with Mr. McCartney occurred two or three days after the previous one.

Suppose I should give you Jan. 29, 1851, what would you associate with the year? "That was the spring the cars came through Cardington." What is the association for getting the

day of the week? "I think of the 1st of January, and then circumstances each week down to the time." What do you associate with the 1st of January? "Nothing particular; the day before I sawed wood for a grocery-keeper, and in the evening I bought some cakes and nuts." What kind of cakes? "Cakes like they sell in a grocery—the kind of small-like sweet cakes coated over with sugar." What kind of nuts? "What they call, I think, pecans." Is this event what fixes the 1st of January in your mind? "Yes."

In coming down to January 29, what do you think of next? "Why, I don't think of any thing special; I think what employment I was at." Well, I want to know exactly what you do think, whether especial or not. "The next week after that, the Baptists had a quarterly meeting above us, away out in Richmond county. Two of my brothers went up." What is the next thing you think of? "Why, the 15th day I borrowed the Life of Fred. Douglass from a man here in town." What town? "Cardington." What do you think of next? "Nothing particular; only I was sawing wood there in town, and it was a kind of open-like spell of weather; and then about the 26th (Sunday), there was a meeting there at the lower end of town, at the Protestant Church." What next? "It began to get cold that week. Wednesday was the 29th; it was pretty cold Wednesday, Thursday and Friday." How do you remember that Wednesday was the 29th? "Because I knew the Sunday before was the 26th; Wednesday was the 1st, 8th, 15th, 22d, and 29th." How do you remember that the 26th was Sunday? "It was the 26th that I was to meeting there at the Protestant Church." Could you not have found out the day of the week sooner by thinking of Feb. 2, Candlemas day, and going back? "Just as soon; but that was not the way I thought of it. Sometimes I do think of it in that way; I run it backwards as often as forwards." Do you remember many passages of Scripture? "Oh, yes." Do you remember the whole of any chapter? "I believe I can repeat the 15th chapter of St. Luke, and I don't know but several others." He then repeated it, giving some verses *verbatim*, but others in nearly the proper words; in all cases, however, giving the meaning, thus showing that his memory tends to ideas and events rather than to words.

Can you see well enough to remember a person by night? "Oh, no; I never remember a person by countenance." Can you always remember a person by his voice? "Yes, if I get well acquainted with him." Do you ever forget the name of such a person? "No, sir." Don't you suppose you would forget the name sooner than you would the voice? "No."

Here he said, "I learned the German language by hearing them talk; not perfect, but so that I can make out with them,

" '*Der morgen Stund
Hat Gold im Mund.*' "

What is that in English? He replied,

" '*The morning hour
Has gold in its mouth.*' "

" '*Der morgen Stund
Hat Gold im Mund;
Wer schläft am Tag
Hat grasig Grund.*' "

" '*Who sleeps in the day
Has weedy ground.*' "

How long did it take you to learn to read? "Not long, after I could see. I could beat most persons spelling; I learned before by hearing them spell." Did your sight grow better? "I think so, because I was always trying to read in books, and I never could read till about eight years ago." Spell *separate*. "S-e-p-e-r-a-t-e." Spell *valleys*. "V-a-l-l-i-e-s." Spell *infallible*. "I-n-f-a-l-l-i-b-l-e."

I asked him whether he knew all the county seats of all the counties of Ohio. "I think I know nearly all." What is the county seat of Pike county? He did not know. Of Pickaway county? "Chillicothe." No; Chillicothe is the county seat of Ross county. Circleville is the county seat of Pickaway county. Of Miami county? "Cincinnati." No, you are wrong; it is Troy. Of Butler county? He did not know. Of Belmont county? "St. Clairsville." Of Cue county? He did not know. Of Coshocton? "Coshocton town." Of Monroe? He did not know. Of Noble? He did not know. Of Jefferson? "Steubenville." Of Wood county? He did not answer. I told him it had been Perrysburgh, but it was changed some months ago to Bowling Green. He said he knew it had been Perrysburgh, and that it had been changed. He seems not to have learned very thoroughly the county towns of Ohio.

KANT'S ETHICS.

By JAMES EDMUNDS.

I.—*Ethical Merit and Reward.*

Probably few students of the philosophy of IMMANUEL KANT have failed to notice the contradictions which disfigure his exposition of his system. Perhaps the most important (as certainly the most manifest) of these is the positive, unqualified and frequent assertion upon the very outset, that time and space do not condition things-in-themselves, but are merely subjective forms of sensuous intuition (see the *Kritik der reinen Vernunft*, general remarks on transcendental esthetic, etc.); whereby he involves himself throughout in many difficulties as needless as superficial, since all that is requisite for the establishment of his theory of freedom and necessity upon impregnable ground is the HYPOTHESIS that noumena may be indeterminable by the sensory, a hypothesis immediately evident, transferring to his assailants the labor of establishing of noumena any KNOWLEDGE of any determination whatever. We do not know why it should never have occurred to him to make space and time subjective forms of sensuous intuition without denying that they may be also objective forms of all that is given in sensuous intuition. His argument requires the positive view, but can well spare the negative.

§ 2. In the enumeration of the preliminary ideas entering into the metaphysic of ethics, we find it stated that "what any one does over and above what he can be compelled to, is meritorious, or of well-desert." This assertion, astonishing only because placed in an ethical system, suggests the inquiry whether the attempt to establish merit is compatible with interest in morality. The law of freedom, KANT declares in the introduction to the *Metaphysic of Ethics*, "is, in contradistinction to physical laws, called moral. When directed to external actions and their legitimacy, it founds jurisprudence; but when the law is applied to human conduct, and is itself the ground determining an action, so as to ascertain and fix its inward and therefore also its outward conformity to the law, the knowledge apriori result-

ing from this formal determination of the maxims of the will is the science of ethics ; and this is what is meant when it is said that actions in harmony with the first [JUS, law external, law in the narrower sense] are legal, while actions in harmony with the last [law absolute, the supreme principle of ethics] are moral." Now in the chapter on the apriori spring of the will (*Kritik der praktischen Vernunft*), this great man maintains and surely establishes that "the essence of all moral worth in acting consists in this, that the moral law be the immediate determinator of the will. If the will be determined so as to be in harmony with the law, but only mediately and by the intervention of an emotion or feeling, no matter of what kind soever this last may be [shall we say the desire of reward?], which emotion must be presupposed before the law becomes the sufficient determinator, *id est* when the determination is not solely out of reverence for the law, then the action is possessed of legality, but it contains no morality." — "Reverence toward the law is the only and undoubted ethic spring, and is an emotion directed to no object except upon grounds of the law." And again: "Duty demands in the act, objectively conformity to the law, and subjectively (in the maxim from which it flows) reverence for the law, such being the only method of determining the will by it; and on this rests the difference between those states of consciousness — that of acting in harmony with what is duty, and that of doing so from a principle of duty, *id est* out of reverence for the law. The first case (legality) is possible when mere appetites determine to volition; but the second (morality), the moral worth, can be placed only in this, that the act has been performed out of duty, *id est* out of naked regard had to the law."

§ 3. Here, in order that we may fairly represent the Koenigsberg professor, we quote at some length, following the admirable translation of SEMPLE :

"What any one does over and above what he can be compelled to, is meritorious, or of well-desert; what actions do no more than tally with the legal standard, are of debt singly, and when they fall short of it are of demerit or ill-desert. The legal consequence of demerit or guilt is punishment; that of merit is reward, **provided the reward promised in the law was the motive inciting to action.** Conduct precisely exhaustive of what we were indebted to, is unattended by any judicial effect. Benignity or favor stands in no legal relationship to any action."

"The good or evil results consequent on an indebted action, likewise the consequences of neglecting a meritorious, cannot be imputed. They may tell upon the actor, but [the latter] cannot be deemed effects of the law.

"The good springing from an action of well-desert, and the evil following on an unjust action, are imputable.

"However, subjectively, the grade of the imputability of an action is to be estimated by the magnitude of the obstacles overcome. The greater hindrance from without, and the less the hindrance to duty from within, so much the higher rises the moral honesty and well-deservingness of the act: e. g., if I rescue from great wretchedness one who is a stranger and unknown to me, and at great personal inconvenience to myself.

"Conversely: the less the impediment is from without, and the greater the obstacles are within, so much the greater is the demerit in the scale of guilt. The state of mind, therefore, in which a bad action is perpetrated, whether unagitated or inflamed, will greatly change the imputation both of the deed and of its consequences."

§ 4. It would seem that these conceptions of reward and merit are here introduced to complete a system, being apparently necessary to complement the notions of demerit and punishment. And indeed, if we were speaking of merely civil law, without question of other obligation than that of force, it were hypercritical to suggest the contradiction. But we ought to remember that we stand in the presence of THE LAW, supreme and inexorable, "before whom all appetites are dumb, however secretly they rebel"—"whose voice makes the most daring scoffer tremble, and forces him to hide himself from his own view." Although in law externally considered we make abstraction from inward motive, we dare not derogate from its dignity by admitting any material determinant; nor can we forget that in thus making abstraction we have neither subtracted one jot from nor added one tittle to the law itself, which remains unalterable in majesty forever.

§ 5. The moral law does not seduce by the offer of reward: it COMMANDS. It cannot be fulfilled: its fulfilment can at best be no more than approximated. How in any case it can be exceeded, is incomprehensible.

§ 6. Moreover, if it be figured as containing a reward, the agent who is "incited to action" by that reward as the motive, is no less sensuously and mechanically determined than if by benignity, which is a sensuous impulse. If benignity "stands in no legal relationship to any action," how shall any relation to the law be established by that agent who,

having already fulfilled it, proceeds to act similarly for reward?

§ 7. Further it appears, granting the theory of merit and reward exhibited by KANT, that "the less the hindrance to duty from within," the less (instead of the greater) is the moral well-deservingness of the action. If, having no love for the law, an agent equally overfulfills it, surmounting the greater hindrance from without also, it must be admitted that the magnitude of the obstacles overcome is the greater because of the greater inward hindrance, and that there is less doubt that "the reward promised in the law" is the sole motive inciting to action. "So much the higher rises the MORAL WELL-DESERVINGNESS of the act"! That is to say, having presupposed immorality, we demonstrate a higher grade of morality. It may be said that "the reward promised in the law" is nothing material or positive, that the law admits no other reward than absence of punishment, that "the reward promised in the law" signifies no other than the moral motive, that in estimating the imputability of an action question is made of merit but not at all of reward, etc.; but this is merely juggling with words. It is not possible to dissociate the notions of merit and reward, to conceive of merit which ought not to be rewarded. Moreover, the merit is expressly estimated "subjectively," as based upon the moral law. But how shall we limit the reach or vitiate the claim of DUTY?

§ 8. It is not well, however, hastily to ascribe contradictions to a system so thoroughly elaborated, representing twenty years of mature reflection, and exhibiting in its least forcible presentations a profundity of thought that compels more than admiration. Something may be allowed for the great age of the author; and if perfect continuity of argument is lacking, yet if the system itself is at heart sound, so soon as we discover the course and windings of the thought, we may find upon careful examination that the contradictions are superficial and apparent, not inherent or essential.

§ 9. The law, either as common or as statute, is never by any finite legislator promulgated in its full extent, but only so much thereof as may by finite intelligent agents easily be fulfilled. It is therefore conceivable that THE LAW AS ENOUNCED may be overfulfilled. It is also conceivable that

the legislator may hold out a material determinator, a reward, supporting and as it were supplementing an imperfect apprehension of duty, the more perfectly to effect the observance of the law. But the merit of such observance must not be mistaken for morality, nor the desire of the reward for a right maxim.

§ 10. It is not strange that imperfect man should transfer to the person of his fellow finite intelligent agent, in whose practice he sees the dignity of the law exemplified, some portion of that unbounded reverence which is extorted from him (however unwilling) by the naked representation of the law itself. But even though he does fully admit that he can attribute no more than external observance of the law, and may not dare to pronounce upon the subjective maxim which determines that observance, the reverence which he bestows is based wholly upon the charitable presumption that that maxim is no other than duty — *id est*, than the same reverence for the law which inspires his own homage. That this is so needs no further proof than that the homage is instinctively and immediately withdrawn upon knowledge (or even suspicion) that the motive is not moral but material (e. g., a reward).

§ 11. It is the consciousness (albeit latent) that overfulfilment of the law can be only apparent and never real, which is the ground of the reluctance with which a very good man accepts a reward proffered, invariably repelling the imputed merit. And in honorably characterizing the reward as not of desert but a free gift thankfully received, he does not exhibit as is commonly but falsely asserted humility, but pure justice (*id est* conformity to law). The consciousness of conformity to the law never humbles, but ever exalts.

II.—*Ethical Consciousness.*

§ 12. Mr. SEMPLE, the shrewd and masterly translator of the ethics of IMMANUEL KANT, in his introduction to the *Grundlegung zur Metaphysik der Sitten* inquires whether in the search for a moral philosophy it is warrantable to begin as KANT does hypothetically, or on the contrary needful to begin with the facts of consciousness.

A clear-headed thinker despondently assures us that he cannot find morality in consciousness (whereby he means the abstract intellectual fact; for that he DOES find morality in consciousness needs no other proof than his earnest effort to found it securely).

There is something very wonderful and infinitely touching in the spectacle presented by such a man, who finds himself oppressed by the too hastily assumed necessity either to abandon his consciousness of morality as unphilosophical or to deduce it by unquestionable ratiocination from pure intellectual consciousness. We hasten to urge upon his remembrance that reason cannot propose to herself any problem which she is unable either to solve or to remove explicitly beyond her sphere by a sort of negative but conclusive definition.

§ 13. So weighty a dilemma ought to be carefully examined, whether perhaps its origin may be found in some undetected error and its delusive character exposed to deserved contempt. The sources of error may be

- I. An insufficient analysis of the idea morality.
- II. An incomplete view of the reach and scope of the faculty reason.
- III. An imperfect conception of the ground of knowledge.

§ 14. As to the first, that the idea morality must include no *aposteriori* elements is postulated by the attempt to make an *apriori* deduction. But the obstinate fact that it is habitually permitted to retain not only *aposteriori* elements, but too often a completely *aposteriori* character, is not merely very marvellous, but goes far to establish its position as no deduction from pure intellectual self-consciousness, but a co-ordinate fact of reason, demanding a deduction from the ground of all knowledge. If it were an *apriori* deduction from consciousness, like an ordinary conception of the understanding (e. g., that all sensation must have a degree), it would long ago have been degraded to the rank of a simple category. That it demands of consciousness no more than the recognition of its true character, that it **COMMANDS** this recognition, and that it requires over and above such an acknowledgment no intellectual deduction from consciousness, but

solely room to stand upon the common and necessary ground of knowledge, must have not only a deduction from the nature of the faculty reason, but an ethical occasion. Fortunately Reason, who is often compelled to content herself with the proof of a *THAT* and to frankly confess the most absolute ignorance of a *HOW* and a *WHY*, finds here the *WHY* so plain that "he who reads may run" (*id est, make haste to be wise*. As to which *WHY*, more hereafter). In our brief recension of KANT's doctrine of ethical merit and reward, we have previously partially stripped morality of its vicious aposteriori presentment; although we have not contemplated a complete elucidation, or anything more than to direct the student who really seeks truth.

§ 15. Passing for the moment the second and most fruitful source of error,* we come to the conception of the last ground of knowledge. This ground, commonly called self consciousness, no philosopher since DES CARTES has deemed it necessary to attempt to establish. If the student, upon arriving at that stage of reflection where the apprehension of self consciousness is possible, fails to grasp it instantly and securely as the ultimate fact of the rational faculty, fails thenceforward to posit it as no less apodictically certain than an axiom although incapable of further proof than mere assertion, his case is unfortunately but exactly analagous to that of the trickster's dog who will pick you out certain cards from the pack by accustomed mental processes which do not rise to the height of free intelligence. He may be thankful if he can discover any meaning whatever in Sir WILLIAM HAMILTON's sentence: "He who doubts that what consciousness manifests it does manifest, in so doubting doubts that he himself doubts."

§ 16. It is common to state that what is given in self consciousness is existence. Let us say rather unity; since existence may be plausibly frittered away, but unity is as firm as consciousness and is wholly inseparable from it. That which is given is hastily said to be unity of self consciousness; but it ought to be known as consciousness of unity. Unity is cogitable without consciousness: consciousness is not cogita-

* Not resumed in this chapter.—*Ed. Journal.*

ble without unity. Consciousness is the ultimate intellectual FACT: unity is the ultimate intelligible GROUND of the fact, and is necessarily preposited by consciousness. Reason finds her facts in consciousness and bases them upon unity. She does not require that knowledge should be deduced from pure apperception (the abstract intellectual fact of self consciousness); but that consciousness (as it were a SCHEMA) should seize knowledge in its totality and in its manifoldness, and deduce it from that unity which underlies and supports itself. (Nor let any man think to escape from the requirement of reason by making question of the essential nature of objective unity: which cannot in any possible contingency affect the position that WHATEVER KNOWLEDGE MAY BE it is so constituted solely by virtue of the objective validity of the unity of apperception. Wherefore, any ontological digression is here uncalled for.) When consciousness apprehends a fact, reason proceeds to investigate, by abstracting from experience and laying bare the apriori root, whether the fact is grounded in unity. If not, it is no fact, but a delusion. When reason declares a fact to be necessarily and universally a fact of reason, she cannot refuse to expose its ground and to make a deduction from unity. But the declaration of a fact is not the deduction of a fact; and though the latter may not have been made or attempted, the former may be apodictic.

§ 17. If by "the facts of consciousness" Mr. SEMPLE understands apperception, he has simply fallen upon the common misconception of the Kantian philosophy. If he accepts the fact morality, his inquiry is a suggestion—which need only be stated to provoke a smile—that an exposition of a deductive system ought to proceed categorically *ab initio*. On the contrary, it may sometimes be better to begin with a hypothesis whereof no man can establish a contradictory, than to postulate that which may prove too much, or may be so far successfully disputed as to lessen its usefulness. Of which in truth it would be difficult to find more convincing illustration than the deplorable consequences of the persistent assertion by the great master himself that things-in-themselves are not and cannot be conditioned in space or time.

§ 18. Such students of the progressive development of the

human mind as are familiar with the physical theories of integration and differentiation held by some of the self-styled positivists, with the immense periods required by modern geologists for slight effects, with the doctrine of some disciples of FICHTE as to the self-determination of infinite mind, with that of some readers of SPINOZA (and perhaps of some of HEGEL) as to the nature of the self-consciousness of absolute existence, will readily admit that unassisted infantile intellect must have tedious beginnings, painful labors, and within mortal limits results nearly barren. What BACON, what HUMBOLDT, what PLATO, sprang ever from a savage mother? Or, to present the question in a practical aspect, what St. Louis rationalist will undertake to make plain to even the preternaturally sharpened wit of a St. Louis news-boy the character of apriori reasoning?

§ 19. The day has long gone by when it is possible for an introspective thinker to acknowledge the *tabula rasa*. He is compelled to postulate somewhat, even though it be no more than an obscurely defined receptive faculty (which the *tabula rasa* is not). But whatever his view, and whatever his psychological faith, he expects no full-armed MINERVA even from the brain of a JOVE. He may repudiate all knowledge which does not possess an immovable apriori foundation; but if he is a teacher he will surely bring his pupil to the very ground of all apriori bases by no other method than induction.

§ 20. Aposteriori, in our relation to the sensible world of phenomenal intelligent agents, we are brought face to face with an undeniable fact of experience—morality. Whereupon reason abstracts from experience, discovers the apriori idea, and immediately and apodictically pronounces judgment:—**Every finite intelligent agent is subject to a rule of right and wrong.** This judgment is declared to be necessary and universal, and is delivered with such complete certainty that reason refuses to suspend its application upon the most weighty appearance of exception, unhesitatingly averring that the derelict agent who is presented as exception OUGHT by the necessity of his intelligent nature to be no exception, and that no possible experience of natural obstruction OUGHT to delay (much less counteract) the practical operation of the law. And as reason, having established by an apriori

deduction the impossibility of material atoms, replies to the *aposteriori* presentation of an atom that the law of nature is *apodictic*, and that if sensitive receptivity were sufficiently acute the apparent atom would immediately become experimentally divisible, so the same reason with the same sure dependence upon *apodictic* law declares that wherever **HERSELF** is present her exponent, upon however low a plane he may stand as an intelligent agent, is necessarily a moral agent, no matter how undiscoverable the *aposteriori* fact (e. g., in the case of a person as far below the Australian savage as the latter below a **NEWTON**).

§ 21. Dogmatism fails to harmonize freedom and necessity because it abandons in ethics the rational method which it pursues in physics. Philosophy, recognizing reason as its sole instrument, has no difficulty in reconciling freedom and necessity; but it is apt in ethics to forget the nature of the material with which it is working, to misuse it, and because of consequently illogical conclusions to reject it. Exactly as if a mechanic, having discovered that his working instrument can divide the air, should proceed to cut thence a foundation for his house: he would be laughed at unmercifully if the absurd incident should afterward cause him to deny the material fact, air. And exactly as it were better that he cast away his instrument—aye, his whole chest of tools—than attempt to exclude the air from his dwelling: so is the error of philosophy in rejecting an *apriori* fact of reason because it does not know what to do with it, productive of more serious consequence than the gross blunder of dogmatism in casting behind-back the method of reason because it does not understand it. It is well for our ridiculous mechanic that his tools can be used in the air: from which not being able to withdraw, how else could he work at all? Similarly fortunate is our philosopher, who *nolens volens* is a simultaneous dweller in two worlds, in that reason hath equal sovereignty in both: driven from her throne in one, her title to allegiance in the other were very frail.

§ 22. It will not avail to urge that moral necessitation is not given in abstract consciousness. If an intelligent agent, theretofore subject only to some sensory differing *toto cœlo* from space and time, were unexpectedly to discover some fact

in space and time, he would be justly censured for rejecting that apriori fact upon the ground that he had never been able to find that form of sense in his consciousness. How could he find it before his subjection to it? How could he escape from it in the presence of his subjection to it? Every sensation must have a degree: how could an intelligent agent deduce that apriori rule from his consciousness, except he first had experience of sensation? (e. g., he living solely in an intelligible world.) It does not need argument to prove that moral necessitation is not given in abstract intellectual consciousness: it is so far otherwise that no finite intelligent agent could by any conceivable possibility anticipate such an awful datum as the spontaneous energy of self-practical reason in the world of nature.

§ 23. But there is no room for question either of anticipation or of possibility. The marvellous ACTUALITY is ever present; and the only problem which ethics can be required to solve is the harmony of freedom and natural necessity, id est the development of the absolute rational ground of the fact and the formulation of the law in pursuance of which it stands.

§ 24. And whether the philosopher holds fast to individual self-determination and the absolute independence of self-consciousness (with the inexorable corollary of the mutual determination and interdependence of independent and solely self-determined units), or rests with sweet content in absolute dependence (of spontaneity no less than of necessity) upon ABSOLUTE UNITY; in other words, whether he believes the law to be merely given through himself as lawgiver or to spring from himself as sole and ultimate author; he cannot escape from the fact of the law, and in the attempt to escape is ever overtaken by self-condemnation, ever overwhelmed and confounded by the most despicable of all humiliation.

ANALYSIS OF AN ARTICLE ON HEGEL.

By ANNA C. BRACKETT.

In the North American Review for April, 1868, there appeared an article by J. E. Cabot, entitled "Hegel," which will from its suggestiveness amply repay many perusals. It is here proposed to analyze this article, in so far as such treatment is possible, although, because it is more organic than mechanical in its structure, it will not admit of a formal logical analysis. The main heads will be indicated, and, for convenience, some statements will be reduced to the form of equations. If this paper shall induce a reperusal of the original review, it will answer its purpose. It contains:

- A. An Introduction, vindicating Metaphysics from the charges brought against it.
- B. A Presentation of some of the Principles of Hegel's System of Procedure.
- C. A Reduction of the Results of Inductive Science.
- D. A Consideration of the Law of Causality; and
- E. A Brief Statement of some of the Results of Philosophy.

A.—Introduction.

Against the statement of the Saturday Review, that "Metaphysics has been long sinking into merited contempt," our author first hurls the theorem that "Metaphysics is the science of Realities." Not only this, but he goes on to show that all men are metaphysicians, the difference between them in this respect being one of degree alone. These two positions may be otherwise stated thus: (a) Truth is found only in consciousness, and what we do not find there is not Truth at all. (b) All men practically, if not theoretically, admit this. He proves his statements in three ways:

1. By the existence of common names.
2. By the mode of procedure in Induction.
3. By the way in which we accept facts.

1. *The existence of common names.*

(p. 419.) Our minds continually sift out from the mass of impressions produced, the particular and peculiar, retaining the common and general, to which, though we have never felt, or seen, or smelt, or tasted it, we give for name a common noun: and the abstract somewhat so named is recognized

by us a true somewhat. But this common name necessarily implies a comparison of sensations felt by us at different times. It is evident that if each sensation were so individual as to have nothing in common with any other, or if our minds were incapable of comparing, and recognizing the Constant in our sensations, common names would never exist. To-day I have an apple which is large, nearly spherical, soft, smooth, sweet, green, fragrant, with black seeds and white pulp. To-morrow I have one which is small, twice as large if measured one way as if measured the other, hard, rough, sour, red, destitute of odor, with white seeds and red pulp. The two objects differ in almost every particular. And yet the mind compares the two sets of impressions, recognizes a Common, to that Common and Constant applies the common noun "apple," and holds to this abstraction as Truth in the face of the contradictions paraded by all the senses. To verify further the impressions made on our minds, we compare our own sensations with those of others, as far as we can. No two persons are ever cognizant by their senses, of precisely the same object at precisely the same time, any more than two can see the same rainbow; and yet we have common names which we apply to these sensations, as e. g. "sweet." As I can never feel the sensations of another, or he mine, we cannot say that the immediate sensations are the same, and yet we make and accept a common name.

2. The mode of procedure in Induction.

(p. 450.) The whole process of Induction consists in "winnowing out the peculiar and independent*—that which has nothing to show for itself but the immediate certainty." It claims to be built on observed phenomena. But a science that were really so built would be no science at all, any more than the accumulated knowledge of phenomena possessed by the North American Indians entitles them to be called scientific. Induction separates the Essential from the Unessential in phenomena, disregards the latter and builds its laws on the former. It is the Universal and Abstract with which it deals. Experience, upon which Induction confessedly rests, "does

* "Independent" seems hardly the word to convey the meaning here.

not proceed by the comparison of sensations, but by the comparison of inferences."

3. *The way in which we accept facts.*

(p. 450.) What is the whole fact to one, is only partial to another. The difference between the child and the philosopher is only the difference in the number of steps the two take in seizing what seems to them to be Truth, the difference in the number of "why's" they ask. The child accepts immediate sensations as Truth, and all facts are to him "stubborn"; i. e. he does not, because he cannot, go behind them. But as he grows towards philosophy, facts before stubborn are no longer so, but yielding. Behind them, however, lie another set which are stubborn to him. And, moreover, he does believe implicitly that these also will yield at last to perseverance, else why does he never give over his efforts?

The distinction above referred to of essential and unessential is further shown. Facts are what we want? Yes; but surely not all facts. For how else comes it that science disregards some and carefully holds to others? The curve of a kitten's tail is as much a fact as the curve of Saturn's orbit. Why does science neglect the one, and busy herself about the other?

Can Positivism tell us what draws the line between essential and unessential facts? Is it not evident that we do actually "assign mental values to all our facts," which values alone we recognize, and that these values are simply the exponent of the force with which facts go out of and beyond themselves—"with which they lead away from themselves"—with which they enter into relations? But these relations are assuredly metaphysical abstractions.

Now this comparing of sensations, this selecting of facts, this assigning of mental values to them, is done through CONSCIOUSNESS (p. 452). Man does it; the brute does not. To the latter, in so far as he is pure brute,* one fact is of just as much importance as another. and each sensation separate and

* This phrase may require some explanation. A dog recognizes the difference between his master's whistle and that of a locomotive. He hears both, but obeys one and disregards the other except in so far as he listens to it. In this he is not pure brute, for he evidently makes some mental comparison, if the expression may be allowed.

unrelated. If his actions are adapted to the end of his being, they are so only to us, not to him. "Brutes think, but they do not think about thinking, and hence are not individuals, are not free." Consciousness, accordingly, is defined thus: (pp. 452-53) Consciousness is

- a. "The taking together of what belongs together, but occurs separately."
- b. "The knowing together or in common with others." (Hobbes.)
- c. "The individual's discovery that he is not mere individual, but also universal."
- d. "The discovery that one's individuality is not mere fact, but Truth."
- e. "The discovery of the Truth."

"Consciousness is infallible as far as it goes" (p. 453). It is our only criterion of Truth. Error may arise, however, from our carrying it "only to the most general category." Lewes and Mill are here unwillingly forced to testify to the correctness of this conclusion, the former by the admission in the introduction to his *History of Philosophy* that "the verdict of Consciousness is the ultimate test of Truth," and the latter "by his assuming his fundamental truth, Happiness, to be its own sufficient reason and evidence." "The only conclusive test of Truth is seeing it," and what all see is accepted as established science.

The Introduction closes here with the acceptance of the statement that Metaphysics—Philosophy—is Idealism. But when one has been forced to admit that all are idealists, the conclusion is not far off that all men, not excepting the writer of the *Saturday Review* article, are metaphysicians.

It has been already seen that by experience no one really means the sensuous perception. Some definition may elucidate its meaning. Experience is (p. 454):

- a. "The reconciliation of the limits and conditions which surround a fact, to the Truth."
- b. "The rectifying of old impressions by new."
- c. "The thinking our thoughts over again, and recognizing in them over wider relations of particular facts"—and Consciousness is a thinking of this process.

B.—Some Principles of Hegel's Procedure.

(p. 455.) To those who deride metaphysics, Hegel, as the most metaphysical thinker, becomes the most prominent object

of scorn, and it is well known how industriously ridicule has been brought to bear on his reduction of Being and Nought. In common with most German philosophers, he has to bear the odium of trying to evolve Truth from consciousness, his critics, however, failing to inform us from what other well it is to be drawn. But he is especially accused of starting with his own presuppositions, and of then proceeding to startle the understanding into the acceptance of his conclusions by force of a series of brilliant paradoxes. Our author here asserts, p. 456, (1) that least of all men does Hegel make, or even accept, any presuppositions; (2) that the essence of his method consists in leaving the Truth to show itself, or rather in simply firmly grasping and holding the phenomenal world till it shakes itself clear of all unessentials, and the naked Truth stands revealed. This process is indicated in the old tale, which appears in so many different forms, of the knight transformed by magical power, and who was only restored by the friend who seized and—though he became in his grasp red-hot metal, fire, water, and a roaring lion—simply held him fast till he held him at last in his proper shape; so, in spite of the glamour of the senses, Hegel seizes the phenomenal world as it presents itself, and firmly holds it; and through all its transformations he holds it, till it stands stripped of all seemings in its absolute Truth.

Hegel holds that, if this process be pursued, each partial result *through its very unsatisfactoriness* will indicate the Truth which it has not reached. While the understanding flings away the contradictions it encounters as useless rubbish and so leaves its hands empty, or else sits down upon them to mourn over the futility of human reason, Hegel posits them as steps, and mounts by them into a higher realm of Truth. To him, then, failure is success, for it becomes at once transformed into a continually brightening morning-red for philosophy and life.

C.—Reduction of Inductive Science.

(p. 457.) Our author adduces here the famous paradox with which Hegel's Logic begins, of the identity of Being and Nought, and shows that this is the result to which Inductive Science itself leads, the very end to which it is directing its

course, and which it has indeed nearly attained. For Mr. Lewes says that the goal of Science is "to grasp the universe as a single fact," and he congratulatorily remarks that "we have already reached the sublime height of regarding all phenomena simply as modifications of each other, being indeed only different *expressions* of equivalent *relations*, different *signs* of the same quantities," a doctrine known as "Correlation of Forces." But how far is this conception from that of Hegel's pure Being! We are fast removing all determinations, and shall soon have nothing but a "Unity effacing all distinctions" for the only Truth. If we prove that all is but a mode of motion, what then is motion? Our definition must be, "Motion is ———," and stop there. We can say what it is not; and how far removed are we then from nought? We have satisfactorily reduced all the phenomenal world to pure Being, and this Being shows itself as universal negation = Nought. Is it not quite as satisfactory to begin with pure Being and Nought, and to arrive at some positive result, as to

"Mount through all the spires of form"

with the inductive philosophers, only to rest at last in Nought?

But Science has not yet reached this. It stands, humbly exultant, before an everlasting dualism, the steps to which I will briefly indicate. In pure light, as Hegel says, we could see no more than in pure darkness. We must have something that is not light, something opaque, in order to see the light itself. Negation, then, is necessary. In fact,

- (1) Only negation gives Reality.
- (2) Negation must be reciprocal.
- (3) But negation = exclusion = relation.
- (4) Reciprocal relation implies identity.
- (5) Identity implies difference.

This persistent dualism (p. 459) we call by various names, e.g. attraction and repulsion, positive and negative, matter and force. Science accepts this dualism as unavoidable, cheerfully shouldering the blame itself. It will use these terms "force and matter," but always with the mental reservation that they are not anything real. That things contra-

dict each other is only because our conceptions are fragmentary. But the statement disproves itself. "How did we find out that any contradiction existed?" Certainly not from our simple apprehension; and if we see our limits, we must "mentally see beyond them." Accept the statement as valid and all knowledge is destroyed by it, the proximate as well as that drawn from inference. (This point is spoken of more at length farther on—p. 467.) The reason why the finite world, with which Inductive Science assumes to deal, is so contradictory, so discouragingly inexplicable, is that she insists upon treating it as if it were infinite, having its end in itself; and then is disappointed when it refuses to be so considered, and when it insists on asserting its partial and incomplete nature. When we know that the truth is not in the Finite, we shall seek for it there no longer, and therefore shall not be disheartened at not finding it there. But we have only to remember the conclusion in A (2) to see that Science practically concerns herself with the class alone, not with the individual; and that, consequently, all her mourning over the "painful kingdom of Time and Space" is not from the heart.

(Some pages of the review are here reduced to bare statements simply, to give the results of Inductive Philosophy since Kant:)

- (1) We know only phenomena, not things in themselves =
= Truth is the product of reflection, not of direct intuition.
- (2) Phenomena = individual things, are the only reality.
∴ Truth and reality can never coincide.

This necessary disconnectedness of Truth and Fact = Law of Causation.

Law of Causation = Every phenomenon has some phenomenal cause.
= Things do not happen all at once.

Law of Causation *shows* itself only in the invariable order of phenomena.

Invariableness of order = only that the abstractness of our conceptions grasps the common, rejecting the individual.

This abstractness transfigured = "Necessity of natural laws."

This necessity = The laws ignore specialization, declaring all to be the same.

∴ The actual thing = the individual is left to a remote and unknown cause.

But remote and unknown cause = accident.

∴ Necessity of natural laws = irresistible accident.

Or—Essence does not relate to individuals;

But Individuals alone exist, &c.

This net result of Inductive Science, the dualism before spoken of, is here stated in its most refined form (p. 466). It is "a dualism of unessential existence and non-existent essence; or rather of an existence which ought to be unessential, but in fact embraces the whole material of knowledge, and an essence which ought not to exist except as a mere abstraction, but is nevertheless the real object of the law."

Science accepts this result with resignation, and Du Bois Reymond is quoted as saying, that "the goal of Science is not at last to comprehend the ultimate nature of things, but to make comprehensible that it is not to be comprehended." If this is really the case, one might ask why it would not be just as satisfactory to be resigned at the beginning as at the end; for if one must hang over an infinite abyss by a chain, however long and strong, which hangs on nothing, one might as safely and as comfortably hang by the first link as the last.

But the contradiction which Hegel solves by the doctrine of the "identity of contradictories" exists, as has been before observed, just as truly in the proximate nature of things, which is all that Science has left to herself as an object of study, so that she seems not to have even one link to hang by. We are reminded (p. 467) that in every living organism we see "the ideal conception of the genus identifying itself with matter in a unity which is not sameness," an identity which is difference. Is not this unity just as incomprehensible as the nature of spirit and matter?

The correlationists have solved for us the phenomena of thought by the following process:

- (1) Every somewhat is either matter or mind.
- (2) These are mutually exclusive.
- (3) ∴ A somewhat, if matter, cannot be mind.
- (4) Phosphorus is matter;
- (5) ∴ Mind is excluded from phosphorus.

- (6) But phenomena of mind arise from phosphorus ;
- (7) ∴ Mind is a mode of matter.

This mode of reasoning may or may not be satisfactory.

The cause of the failure of Science is (p. 470) the assumption that Reality is given in the immediate certainty of direct intuition. But "to bring *any* two facts together is to identify contradictories," and consequently Mr. Mill's "unconditional sequence" is really an identity of contradictories. (For illustration and exposition, see p. 471.) Here too we are reminded that in his very example of the rotation of the earth as the cause of day and night, this rotation is just as much an empirical fact as the succession of day and night, "unless we know why it rotates and why it *must* rotate." It is only stating the same fact in different words, as indeed are all statements of cause and effect, unless there underlie them something more than mere unconditional sequence. This brings us to

D.—*Law of Causality.*

Here the review rises to its culminating point with the question, the answer to which must determine whether any science is possible: "Is there any *a priori* evidence of an essential connection between facts?" i. e. (p. 472) "Do synthetic judgments *a priori* mean anything beyond the simple enumeration of phenomena?"* If they do not, all science is *maya* or delusion. But even the philosophers of Lewes' school practically "accept a necessary connection in the universe, though they find nothing to which it can be applied but the order of phenomena." Our reviewer, however, shows (p. 472) that their acquaintance with the order is just as superficial, and so removes their last standing ground.

On page 473, with regard to the contradiction in the finite world, the author repeats what he said on page 467, it would seem unnecessarily, but that he here takes occasion to speak of the idea which he treated more at length in an article in the "Atlantic" of February, 1864, and which seems to be one of his favorite insights, the doctrine that Nature continually transforms her ends into means for higher ends. I leave the

* In Stirling's "Secret of Hegel," p. 12, is found a clear statement of Hume's argument on this subject, which is referred to on p. 469 of the Review.

reader to follow the words on this and the causal relation (pp. 474-5), and come to the statement of the truth of the Law of Causation, which is really the "identity of opposites." "It is not an outward law but an inward necessity of the thing itself, which is not overruled but spontaneous and self-regulated." In other words, cause and effect must be *comprehended* if we would seize their truth. Cause is not cause unless in union with effect. Alone or independently it is no cause. They exist only in the going over from one to the other, in *comprehension*. In their *Becoming*, is their Truth.

This self-regulative spontaneity which we find in the causal relation, and in which one determines itself to the other, is, in the individual man, freedom. Are necessity and freedom incompatible? Yes, if necessity means a compelling from without; no, if it is a compelling from within. "The truth of necessity is the Necessity of Freedom" says Rosenkranz in his "*System der Wissenschaft*" (p. 88).

E.—*Some Results of Philosophy.*

"The true Cause," says the reviewer (p. 479), "is the IDEA, the thing as it is in itself," and "to transfigure the actual through identification with its Idea is the end of life." In inanimate nature (1) we do not find this end accomplished. Both form and substance disappear. In the living organism (2) we see the preservation of the form, though the substance is wasted. (Here, page 479, the author recurs again to the thought, always recurrent because universal, of escaping from finiteness by making the limitations means and not ends. When we come to man (3), the individual becomes universal through his consciousness, and here (page 481) the subject of "Rights" and on page 482 that of "Society" are touched, only touched, and a mine of thought indicated for any one who will sink the shaft. But in man *as a spiritual being* (4) "the abstract law and the unessential individuality," the Universal and the Particular, "come together as one truth in the individual who is a law unto himself"; and when his Truth takes the form of universal Truth, or rather when he recognizes universal Truth as *his*, he is free.

"In the conception of a self—a humanity no longer self-seeking because self-finding—Philosophy attains its end, and sees in Spirit the final object of its search, and all deductions

or shortcomings as only means to the accomplishment of the purposes of Spirit." With this grand utterance as one of the results of Hegel's philosophy, our reviewer closes his work.

THE SPIRITUAL PRINCIPLE IN MORALS.

By FRANCIS A. HENRY.

Nothing is more noticeable in the ministry of our Lord than the hostile attitude he assumed towards the Jewish Law. His teaching always ignored its precepts, frequently overruled them and put them aside, and sometimes came into direct collision with them, when he would not hesitate to set the Law at defiance and to insist upon his own doctrine, involving though it did the relative falsity of that delivered to Moses by the Most High. In these days of religious tolerance, or indifferentism, it is not easy to sympathise with the horror which the bigoted intensity of the Hebrew nature must have felt at the dangerous doctrines of this Sabbath-breaker and blasphemer of the Law, nor fully to understand the alarm with which the rulers beheld the infection of his influence spread among the lower classes, won by the tenderness he ever showed the outcast and the oppressed. But taking our stand among the Jews of that day, and adopting their cast of feeling, as we must do to read history aright, we cannot be surprised that that fate befel the great Reformer which he so defiantly provoked. For in his whole career he showed no trace of doubtfulness or indecision, no care to guard his statements by qualification, no wish to hold a middle course which might reconcile in some degree his teaching with the teaching of the Law. His conduct rather seems to show a careless indifference to, if not a wanton disregard of, the natural religious feelings of the people. His language, in its abrupt, uncompromising tone, almost seems designed to startle and to shock their most well-settled and sincere convictions, to snatch away the guide of their practical moral life, and to shake them loose from the hold of their ecclesiastical teachers and rulers by uprooting from their hearts the faith, reverence, and submission, which for generations these rulers had

received from them. It was probably out of consideration for the bewilderment of his disciples at this tone and temper of his discourse that he once said to them: "Think not I am come to destroy the Law; I am not come to destroy, but to fulfil." Rightly understood, this is an utterance of the deepest meaning and the strongest emphasis. It may help to an apprehension of its meaning if we suggest that the emphasis should preferably fall in the first clause not on "destroy," but on "Law";—"Think not I am come to destroy the *Law*." This presents a distinction to the hearer's mind. His attention is directed to what the Law is in principle and essence, as distinguished from what it is as mandatory enactment; and so the declaration amounts to this: Be not alarmed that you see me attack and overthrow all these doctrines, and institutes, and prescriptions; they are indeed to be destroyed, but *they* are not the Law in a true and real sense; the Law in a true and real sense—that is, in its inward spirit—I come not to destroy but to fulfil. That is to say, the Law as prescript, or as *merely* a law, is the expression, outputting, of an inward principle, and this principle may be rhetorically spoken of as the whole Law, since it is all that the Law has or is of any worth. To go one step further, the distinction suggested in our Lord's words shows up a dual nature in "the Law." Law while it *states* itself as merely law—the formal, obligatory, literal—just as much therein *implies* its opposite as its truth, the essential, free, and spiritual. In this duality it is that the Law consists of a destructible body and an indestructible spirit. And thus it is by the destruction of the Law that the Law is fulfilled, just as by the death of the body the spirit is born into a higher life. And here note the universal range of Christ's work incident to its spiritual character. It was not because the scribes and Pharisees were hypocrites and their professed righteousness a sham, not because they provoked the Master's indignant scorn and drew upon their heads his scathing denunciation, not because its original purity was dimmed and its true character perverted by unworthy ministers, that he constantly attacked the Law. No, his motive lay deeper. All these were consequential considerations, and Christ cared only for principles. It was not with the particular as particular he ever dealt—in so doing he

would have been a merely human reformer—but with the universal in the particular. Heaven and earth might pass away, but his words should not pass away, for they were spoken of the absolute. It was not, then, the Jewish Law *qua* Jewish but *qua* Law—it was Law in its generality—that was to be done away; but since it was Law only in its pretension to being the ultimate and entire truth, of which destruction was announced, he could say with equal truth, “I come not to destroy but to fulfil,” and so in a manner declare a “higher law” than all Law merely such.

Now what, in one word, is this generality called Law? It is the antithetic moment of the concrete principle, Freedom. Persistence in an antithesis as ultimate can give only an abstract or half principle, which when pressed as the whole truth collapses to error; as in the present case the abstract principle Law produces only a lifeless perfunctory morality—“the righteousness of the scribes and Pharisees”—which is nothing else than moral death, “for the Letter killeth.” Of what moral worth is mere performance of an act apart from the disposition of the heart and will in such performance? Of what moral worthiness in the individual is anything whatever except the inward character of his will? Deeds obtain a moral value for good or evil as regards the doer simply in that they are expressions, realizations of this inward character. As *such* they are of the highest importance, for they only are full expressions of the will; good intentions not carried into act, being proverbially useful for no good purpose. But deeds performed with no good nor evil purpose, from no good nor evil inclination or intent, out of no inward spirit of good nor of evil, are, as regards the doer, morally indifferent. As regards the doer it matters not that such deeds are qualified by the moral law—that they are *in themselves* good or evil: if they do not spring from an inward principle, do not really express an inward disposition of mind, they do not touch the character, but remain necessarily external to the Ego. This is such a simple point that it needs nothing more than statement. And the consequence follows that Law alone can never produce true morality in the individual. For Law simply requires deeds which it qualifies as good to be done. It makes no inquiry into, has no concern with the state of the

individual mind and heart; it simply commands obedience, simply demands that the Right be performed, and limits itself to such objective end, careless of any subjective interest; and this because Law is precisely the subjective antithesis. To secure the true morality of moral beings—that is, *their* morality—the antithesis must be sublated, and then the whole principle comes to light. Spiritual Freedom is the harmony of the antagonistic principles of Liberty and Law, and the resolution of their antinomy. And the resolution comes with this discovery, that an abstract positive while it states only an affirmative, just as much therein implies its negative as *its own determination*. Pure choice, free, unrestricted power of action, that is what Liberty states, and all it states. But power to act can never pass into action; this potentiality can never realize itself in actuality without an object, an aim, a direction. If defined as activity, it contains not the possibility only, but the necessity that it shall act. Potentiality is nothing unless it become. It is the very character of potentiality, and its whole character, that it *shall be* what it *can be*. The power to act, then, implies in its own statement, a direction, a how it shall act, a what it shall do. In the same way the Moral Law states only the end and aim of action, prescribes the *how*, and therein implies of necessity that there be a power of choice. But in this antithetic statement of the two, the internal implication of each with the other is lost sight of. The distinction between them is regarded as extrinsic and not intrinsic, or as *merely* difference and not just as much co-reference and connection. Thus arises a war of half truths. The substance and end of thought and action are isolated from the thinker and agent, and stand over against him as an alien power, demanding a forced obedience. And this is the bondage of the Law from which Christ has made us free. To state the matter more closely, the whole moral movement is from within. Will is *first* mere capacity of willing, pure volition; it is thus posited as activity, and therein shows up its incompleteness since it is without any impulse or direction, without determination. Thus its simplicity falls through self-opposition into duality, and there arises *secondly*, counter the formal freedom of the Will, its substantiality and content, the Right, set in this antithesis as Law, the categorical im-

perative of an authority over and above the Will. But, *thirdly*, the antithesis is removed by this, that there is *only one* determination present, the Will, and what appears in its consideration develops from within it, and is not imported from without. The moral law which limits formal freedom is in fact the essence and true nature of Will. The Will which wills the moral law, wills itself, and so far as it wills the Will and not anything extrinsic—for this is dependence—so far only is it free. And this is the Christian revelation. The truth whereof Christ said “it shall make you free” was the full attainment of self-consciousness on the part of Spirit, and the discovery that the Right, the Good, the Divine, are no longer an alien absolutism as regards the human will, but the true, inward essence of that nature which was made in the image of God, and which God the Son took even as we do during the years of that earthly life, in which he taught us to call his Father our Father. The Christian revelation consists in this stupendous fact, before which all human interests dwarf to nothingness, the incarnation of the God-Man. A God who is Man, and a Man who is God, reveals by his single personality the single self-sameness of Spirit and the essential oneness of spiritual beings, and at the same time reveals the transitoriness and unreality of the merely natural in our humanity which for a little time “doth grossly close us in.” In the light of this revelation, the Right becomes the end of action in a new sense. No longer shall the will yield a grudging or a slavish obedience to an unloved authority—a kind of moral fatality ignorantly worshipped—but, as a man lost in dim galleries sees a figure approaching him from the distance, and, while he advances doubtfully, suddenly confronts a mirror and finds the figure a reflection of himself; so the will with a sudden joy recognizes in Christ its own true and better nature; and henceforth not the servitude which mechanically tithes mint, anise, and cummin, with no heed to the spirit in which such duties are performed—the point which Christ makes all in all,—nor the self-willed rebellion of the natural will against the law of Right, shall be its way of life, but the free, serene holiness of a will which has “come to itself,” and which has attained, as even in this life it may attain, the rest which remaineth to the people of God.

FACTS OF CONSCIOUSNESS.*

Translated from the German of J. G. FICHTE, by A. E. KROGER.

CHAPTER I.

CONCERNING EXTERNAL PERCEPTION.

All our external perception presupposes, firstly, an activity of the mind which is checked and which we call sensation ; secondly, an activity of the mind which gives to this felt sensation an infinitely divisible extension and which we call contemplation ; and, thirdly, an activity of the mind which objectivates the thus extended sensation and asserts it to be an external thing, and which we call thinking.

The essence of all science consists in this, that we proceed from something sensuously perceived to its supersensuous ground. It is precisely so with philosophy. Philosophy starts from the perception of knowledge through the inner sense and proceeds to its ground. In the present series of lectures we shall be busied with the first part of this science, with the phenomenon. It is this phenomenon which we propose systematically to observe, and it will be my duty to guide your observation :

It is true that to observe knowledge means also to represent it not in its immediate living Being, but in only the picture of this Being. It will be my duty to guide you in the sketching of this picture, to separate what is to be separated, and call your attention to what is important. It will be necessary very often to appeal to a special artistical arrangement in order that consciousness should reply to the very same question we propose to it ; and thus the merely natural observation will change into an artificially constructed experiment.

The general and major parts, into which this our observation may separate, cannot be fixed at the very beginning, but

* The following was delivered by FICHTE, in a series of lectures introductory to the Science of Logic, in the year 1810. It belongs, therefore, to his so-called later period, and our readers can from it judge for themselves whether FICHTE did change his system or not.

can be determined only by continued investigation. Until then it will be sufficient to imagine our course of lectures divided firstly into a chapter: *Concerning the Facts of Consciousness in the Perception of External Objects*. The expression, *external objects*, is used here just as common sense uses it, that is, objects, which are perceived by us as external to us, in space.

Our problem now is, to analyze the to us all well-known fact of this perception in general and according to its several components. I maintain—and request you all to look into your own consciousness and see whether you do not find it likewise—that in this fact are contained:

A. *An Affection of the External Sense*; characterized by the following terms of language: red, clear-sounding, bitter, cold, &c.

The possibility of such an affection presupposes an external sense. It is, for instance, impossible that a blind man should be affected by colors. But it is also to be observed, that this affection itself is a limitation of the general sense to be affected in this particular manner. For instance: "I perceive this flower to be red" means simply, that my seeing in general, and particularly my seeing of this color, is limited by that particular seeing of a color which the habit of language designates as red.

B. *An Extension in Space*.—And I maintain, and request you to verify and recognize, that these two parts, the Sensible and Extension, completely exhaust the essence of an external object.

1. I assert that extension is by no means a sensation, but utterly different from it. To perceive this clearly, I beg you to undertake the following consideration. Red, for instance, is an altogether simple sensation, and to objectivate it, as it were, from out of our mind, a mere mathematical point would be sufficient.

Now, what is it that impels and justifies you to spread out this simple and self-same remaining sensation of red over a large space, which is precisely so large and no larger, and

upon which this red color is perhaps closely limited by an adjoining other color?

2. What, then, is extension, since it is evidently not sensation? It cannot be easy to answer this question, since it has been answered wrongly and in the most various manner until the present age, and since it was chiefly the correct answering of this question (through KANT) which led philosophy upon the right track.*

In order to find the right answer in your own self, please assist me in the following artificial experiment, this being the first place where we need one: I ask you, whether that body perceived by you is divisible infinitely, or whether such an attempted and continued divisibility would finally find somewhere a limit where it could not be pursued any further? I foresee that you will not be able to reply otherwise than that the body is most truly divisible infinitely. This reply is, indeed, everywhere made by common sense when left to itself; and if any philosopher answers differently, it is done not through his natural understanding left to itself, but through previously made false presuppositions and lies, which compel him to make such a different answer.

I ask further: Does, then, this infinitely divisible object put itself forth as also determined and completed, and even as included within another infinity? You cannot reply otherwise than: Yes. Hence you contemplate and assert extension to involve a completed and determined infinity; that is, you unite in extension infinity and totality into a fused and concrete unity.

Please make this very important conception still clearer to you by another one, which states the same thing and only emphasizes still more the point at issue. You draw a line

* The necessity of translating *Anschauung* by *Contemplation* instead of *Intuition* is here again clearly illustrated. FICHTE says in so many words, that up to KANT's time people really did suppose that the faculty of contemplation was a faculty of intuition, and that KANT made the discovery that it was an entirely different faculty, a *synthetical beholding*, and by no means an *analytical intuiting* or *conceiving*. No English-thinking person will therefore ever understand either KANT or FICHTE unless he translates *Anschauung* by *contemplation* or an equivalent term (*beholding*, &c.); just as no German reader will understand KANT or FICHTE who does not take *Anschauung* to mean a faculty altogether different from the faculty of conception.

from A to B. I ask you: Is not this line divisible infinitely? In going from A to B, did you not, therefore, actually complete an infinite way? Yes. Is it not necessary to assume that in going from any possible point which you may choose in the line A—B to any other possible point, you will meet the same infinity, so that you cannot absolutely go from one point to another without actually realizing that infinity? Hence you must acknowledge that that which seems to the conception utterly impossible and contradictory is actually realized in the contemplation of space.

3. I ask furthermore, how and where is now the infinite divisibility of the body? Have you actually divided infinitely, and experienced the infinite divisibility through the success of your attempt? By no means! You assert merely, that you *could* divide the body infinitely; and thus your assertion, first of all, does state not anything concerning the body itself, but merely something concerning your own faculty; whilst, secondly, this assertion has by no means been corroborated by experience, but grounds itself, if it is true, altogether upon the immediate self-contemplation of that faculty in its inner essence, as an infinite faculty testifying of itself.

Now this infinite faculty is actually *contemplated*, and is seized and encircled by our glance and placed before it as determined, and hence as the completion and totality of this infinity.

In short, if the faculty is to be contemplated as it is, it must be contemplated as infinite, for it is infinite. If it is to be contemplated, it must be fixed and gathered together, for it is the essence of contemplation to fix. And thus the self-contemplation of the faculty must necessarily become a gathering together of infinity.

Hence, as the last result of our present investigation we have this: *Extension in space is nothing but the self-contemplation of the contemplating mind as an infinite faculty.*

C.—Let us now gather together what has been made known to us by our undertaken analysis of external perception. It involved, *firstly*, an affection of the external sense; and since this external sense belongs altogether to the contemplations,

and is limited in and to them, it is clear that the contemplating faculty can perceive such an affection or limitation only in and to itself. Hence, in regard to this part, the external perception is a self-contemplation of a determined limitation or affection of the external sense. It involved, *secondly, extension*, which has clearly shown itself to be a self-contemplation of the contemplating faculty. Hence, external perception, so far as we have as yet been able to learn, goes never beyond the sphere of the contemplating faculty; and it is very easily to be comprehended from the previous analysis how the contemplating faculty, in its state of external perception, is able to say: I feel myself thus and thus limited, although in the same undivided contemplation I behold at the same time my infinite faculty.

But it is not at all to be comprehended, how the contemplating faculty can go beyond this mere perception and say: There exists outside of me, and altogether independently of me, *Something* which is extended in space, and constituted thus or thus. It is evident now that our analysis of external perception has not yet been closed, and that one of its chief essentials is still lacking.

The immediate fact here is precisely, that the mind goes beyond or out of contemplation, or externalizes; now such a going out from or beyond immediate contemplation and externalizing we have always called *Thinking* (which is a mere word-designation to enable us to express ourselves more concisely without always adding the description of the conception).

Hence we express the above fact thus: in immediate connection with what we have recognized in all external perception as contemplating, *we moreover think*; and it is precisely through this thinking, and through the inseparable union of this thinking with the beforementioned contemplation into a closely-joined life-moment of the contemplating faculty, that that which before was *in* that faculty becomes now something external, an object.

REMARKS.

I. The proposition, that the object — for there is only one object, since the asserted existence of something external and

independent of us, which constitutes the real character of an object, belongs to all objects in the same manner—is neither *felt* in sensation, nor *beheld* in contemplation, but altogether and solely *thought*, is as important as it has never yet been recognized.

We have assisted the insight into it in a very easy manner by showing that the sensation as well as the extension in space are altogether matters of self-consciousness; and that hence if the human mind proceeds beyond this self-consciousness and transcends it by a new kind of knowledge, this latter kind of knowledge is an entirely other one and worthy to be designated by another name, for which name we propose that of Thinking. For thinking is precisely the expression used for a going beyond and out of mere self-consciousness, and we particularly request every one to comprehend this distinction. But that there really is involved such a going beyond even in the mere external perception is an immediate fact, since we do really assume a Something independent of us and existing outside of us, instead of the simple perception of a limitation of our external sense, &c., which alone we perceive,—a fact which each one may verify in his own consciousness.

II. Here already it appears clearly that consciousness is not a mere dead and passive mirror of external objects, but in itself living and productive. Imagine a quiet sheet of water wherein the trees and plants of the shore mirror themselves, and give to this sheet of water even the power to behold the pictures imaged in it and to become conscious of them; and it is easy enough to understand how the water can arise to a consciousness of an image or shadow in it; but it is by no means explained how the water can ever get out of these pictures, and go beyond and externalize them to the real trees and plants on the shore whereof they are pictures. It is thus with our consciousness. To explain how we get an affection of our external sense, and a power to contemplate our faculty, belongs to the sphere of pure philosophy, or the Science of Knowledge, and hence should not be undertaken in a review of the *facts* of consciousness. That inner self-contemplation we here accept as an existing fact. But we are bound to explain how this self-contemplation can pretend to be a contemplation of objects existing by themselves and altogether

beyond the sphere of the contemplating faculty ; and in order to comprehend this as a fact, we must moreover assume an inner life of that self-contemplation which goes out of and beyond itself: *Thinking*.

Now what does this thinking really achieve in external perception? Simply that it furnishes the form, the form of objective existence. Hence in the object we must distinguish two chief components, arising from different sources ; firstly, the objective form, which originates through thinking, and, secondly, that which the object is in itself, and which originates from the self-contemplation of the contemplating faculty ; —the material quality of the object arising from a limitation of the external sense and its extension from a contemplation of our own infinite faculty. The first is the form of the object, the second its matter. It is, moreover, to be remarked in regard to the form of thinking, that thinking is a positing, and a positing in opposition to another ; hence an *op*-positing, and that, therefore, all opposition arises immediately and purely from thinking, and is produced by thinking. So much concerning thinking in general, in so far as its nature can be made clear here.

Let us now answer the question to what particular kind the here discovered thinking may belong.

I say, it is not a thinking arising in consequence of another thinking, but an absolute and in-and-upon-itself-reposing thinking. I will not say that it is the original thinking—though it may be, but surrounded with a certain hull—but it is surely the *first* thinking within the sphere of the facts of thinking ; precisely as external perception generally, whereof this thinking is an inseparable component, is also the first consciousness, preceded by none other.

Hence it is not proper to say, in the ordinary sense of the word, “I” (signifying an individual, which ordinary use of language we here do not wish to deviate from, remaining, as we do, within the region of facts), that it is I who think in this thinking, since it will be shown hereafter that it is only through a reflection concerning this thinking that the “I” arrives at a consciousness of itself ; but we must say, the thinking, itself, as an independent life, thinks from out and through itself and is this objectivating thinking.

And now let us gather together the whole external perception, whereof we have examined the component parts. It is, in general, a consciousness which is not made through any free principle with considerateness and in accordance with any beforehand determined conception, but which is made through itself: a peculiar and independently upon-itself-reposing life of consciousness.

I say an independent and upon-itself-reposing life; for the being and life of consciousness are altogether lost in the described determinations and do not extend further, although it is quite possible that the same life may in a future reflection go beyond the before described determinations, may extend its life and add new determinations of it. But this thus-in-itself lost consciousness, which forms a completely closed spiritual life-moment by itself, is not simple, as we have already stated, but rather composed of two chief ingredients, thinking and self-contemplation; whereof the latter again separates into two utterly distinct components. And these two — or, if you choose, three — components are melted together so inseparably and into one, that the one cannot occur without the other, and that consciousness is formed only through the synthetical union of the three. The contemplating faculty cannot contemplate its infinite faculty without feeling at the same time its external sense limited in a certain manner; and immediately with this consciousness of its own condition there connects a thinking, intimately united with that consciousness to one life-moment; whereby that which before was in us for our contemplation now becomes a body externally existing and endowed with a certain sensible quality. Again, on the other hand: objective thinking cannot occur unless there is a contemplation, since all thinking is a going beyond, an externalizing, which, of course, presupposes an internal from which to go beyond, or to externalize.

THE PHILOSOPHY OF ARISTOTLE.

Translated from the German of G. W. F. HEGEL.

[What we had occasion to remark at the beginning of our translation of the exposition of Plato—taken from Hegel's History of Philosophy (Jour. Spec. Phil., Vol. IV., p. 225)—is especially fitting as an introduction here. In Aristotle one finds a mind so vast that two thousand years have scarcely done more than confirm his statements. Aristotle seems to have laid down the principles, pointed out the methods, and to a great extent made the terminology or *technique* of the various sciences, so that no one can talk or write science without using Aristotelian forms. The absurd notion which has gained currency in modern times, that Aristotle used Deduction while Bacon uses Induction, will be dispelled (it is hoped) by this article. The true method is certainly no one-sided one, but an organic union of deduction and induction such as is involved in the activity of Recognition.]

This treatise is divided into five parts: I. General Introduction, containing an account of the Life and Writings of Aristotle. II. The Metaphysics. III. Philosophy of Nature. IV. Philosophy of Spirit, subdivided into (a) Psychology; (b) Practical Philosophy, including (1) Ethics, (2) Politics. V. Logic.

The translation will be published complete in this volume.—EDITOR.]

I.—INTRODUCTION.

Although one is reluctant to leave the consideration of Plato, yet in taking up Aristotle, his pupil, the danger of extending one's remarks to an immoderate length is still greater. For Aristotle is one of the richest and deepest scientific geniuses that ever lived: a man without equal in ancient or modern times. By reason of the wide compass embraced by those of his works that have come down to us, the material before us is so extensive that we shall scarcely be able to treat it with that completeness which it deserves. We will, therefore, limit ourselves to a general view of his Philosophy, and descend into particulars only in those places where Aristotle has carried out more fully what the Platonic Principle began,—not merely in the depth of the ideas, but also in their further application; [and these places will occur frequently] for Aristotle is comprehensive and speculative to a degree attained by no other thinker, although he does not proceed systematically [i. e. by dialectical evolution].

The general character of his Philosophy.

To characterize in brief his labors, one would say: he has travelled over the whole range of human knowledge, has

pushed his investigations on all sides into the real universe, and has brought into subjection to IDEAS the wealth and untamed luxuriance of the realms of nature. Almost all of the philosophical sciences have to thank him for their definition and commencement. Notwithstanding science—in the shape he gave it—falls apart into a series of abstract conceptions, yet there are to be found in the Aristotelian philosophy the deepest speculative ideas. In the same manner that he dealt with particular provinces, he dealt also with the whole. A general view of his Philosophy presents no totality which is self-systematized, and whose order and connection belong to the same idea; on the contrary, the parts are picked up empirically and placed side by side; so that each part is treated by itself without being subordinated through a scientific treatment that shows up its relations and connections. An exposition of this necessity [by which the whole determines the parts] cannot be expected from the standpoint Philosophy assumed in that time. But although Aristotle's system does not present itself in its parts as a development from its idea, seeming rather to consist of coördinate members [i. e. not subordinate to one principle], yet they form one totality, and that an essentially speculative philosophy.

One reason why we should deal with Aristotle more in detail lies in the fact that no philosopher has had more injustice done him through utterly thoughtless traditions which have gained currency regarding his system, and still are repeated, notwithstanding he was for long centuries the teacher of all philosophical thinkers: these traditions ascribe to him views which are totally opposite to those found in his philosophy. And while Plato has had the good fortune to be much read, the treasure that Aristotle bequeathed to us has remained for centuries as good as unknown, and the most erroneous prejudices have prevailed regarding it. His speculative, logical works are known to scarcely any one. To his views in natural history more justice is done in modern times, but not to his philosophical views.

To particularize: there is an opinion widely held that the Aristotelian and Platonic philosophies are opposed to each other in the sense that the latter is idealism, and the former realism—realism in the most trivial meaning of that term.

Plato, according to this view, set up the Ideal for his principle, holding that the Idea from its internal power created its determinations; Aristotle, on the contrary, is supposed to have held that the soul is a *tabula rasa*, receiving passively all its determinations from the external world; his philosophy would thus be empiricism, "the lowest form of Lockeanism," &c. How little this is the case we shall see in the sequel. In truth, Aristotle surpasses even Plato in speculative depth; inasmuch as he has arrived at the most fundamental speculative insights—at Idealism—and standing on these, has explained, by their application, the widest empirical fields of investigation.

Among the French, too, there still exist quite false views regarding Aristotle. An example of what tradition attributes to him, without ever once looking into his works to verify its dicta, is that doctrine, so highly prized in the old *Æsthetics*, of the three unities of the Drama—those of Action, of Time, and of Place—and called "*règles d' Aristote, la saine doctrine*." Aristotle, however (Poet. ch. 8 & 5, Becker's ed.), speaks only of the unity of action, and incidentally mentions that of time; of the third unity, that of place, he says nothing at all.

His Life.

He was born at Stagira, a Thracian city on the Strymonic gulf, but a Greek colony: hence, though born in Thrace, he was a Grecian. In the meantime this Greek colony fell, with the rest of Greece, under the dominion of Philip of Macedon. Aristotle's birth was in the first year of the 99th Olympiad (384 B.C.); and if Plato was born in the third year of the 87th Olympiad (430 B.C.) it follows that Aristotle was forty-six years younger. His father Nicomachus was physician to the Macedonian king Amyntas, the father of Philip. After the death of his parents, whom he lost at an early age, Aristotle was brought up by a certain Proxenus, whom he requited with continual gratitude, and held his memory so dear that he erected a statue to him. He also made returns for his own education by instructing Nicanor, the son of his benefactor, and adopting him as his heir. In the seventeenth year of his age, Aristotle came to Athens and passed twenty years in the society of Plato. Thus he enjoyed the best opportu-

nities for learning the Platonic Philosophy thoroughly ; and the assertion sometimes made that he did not understand Plato would seem, as far as external grounds appear, to be an arbitrary, quite unfounded assumption.

As regards the relation of Plato to Aristotle, especially the circumstance that Plato chose, not Aristotle for his successor in the Academy, but Speusippus, a near relative, there are a number of useless, self-contradictory anecdotes preserved by Diogenes Laertius. If the continuation of the Platonic school meant the narrow, strict adherence to philosophy in Plato's sense of the term, of course Plato could not appoint Aristotle as his successor ; but Speusippus was just the man for the place. Nevertheless Plato's true successor was Aristotle ; for Aristotle expounded philosophy in Plato's meaning, but deeper and more comprehensively, so that philosophy made progress at his hands. His indignation at this slight is alleged as the cause why Aristotle left Athens after the death of Plato and went to live with Hermias, the tyrant of Atarneus in Mysia, who had been his fellow-pupil under Plato and afterwards had developed a close friendship for Aristotle. Hermias, an independent prince, among other absolute Greek princes and republics in Asia Minor, was subjugated by a Persian satrap ; Hermias was taken and sent a prisoner to Artaxerxes in Persia, who crucified him forthwith. In order to escape a similar fate, Aristotle fled with his wife Pythias, the daughter of Hermias, to Mitylene and resided there for some time. He erected a statue at Delphi in honor of Hermias, with an inscription that has come down to us ; from this it appears that Hermias was betrayed into the hands of the Persians through artifice. Aristotle celebrated his name in a beautiful hymn to Virtue, that is still extant.

From Mitylene, in the second year of the 109th Olympiad (343 B.C.), he was called by Philip of Macedon to take charge of the education of his son Alexander, then fifteen years of age. Philip had already invited him in that well-known letter in which he announced the birth of his son : "Be it known to you that a son is born to me ; but I thank the gods not so much that they have given me him, as that they have allowed him to be born in your time. For I hope that your care and insight will make him worthy of me and of his future king-

dom." It has the appearance in history of a brilliant career, to have been the educator of an Alexander. Aristotle enjoyed also at this court the favor and respect of Philip and Olympias in the highest degree. What became of Aristotle's pupil is well known; and the greatness of Alexander's mind and deeds, and his enduring friendship for Aristotle, are the highest testimony of the spirit and efficiency of that education, if Aristotle needed any such testimony. The culture of Alexander is a sufficient reply to all the prating about the practical uselessness of speculative philosophy. Aristotle found in Alexander another and a worthier pupil than Plato had found in Dionysius. Plato was occupied with a Republic, with the ideal of a State. With this subject before his mind he sought to find means for its realization; the individual was for him only the means, and hence indifferent in other respects. With Aristotle, on the other hand, no such purpose was in view; he confined himself strictly to the individual before him: and his aim was to develop and expand the individuality. Aristotle is known as a deep, fundamental, metaphysician, and that he labored earnestly with Alexander is evident from the result. That he did not pursue the modern superficial course with the education of princes is clear partly from the earnest character of Aristotle, who knew well what is true generally, and hence what is true in culture and how to develop it; the other evidence of this is found in the external circumstance that Alexander, when he heard, in the midst of his expedition for the conquest of Asia, that Aristotle had published his acroamatic doctrines in his speculative (metaphysical) writings, wrote to him reproving him for it, and saying that he ought not to communicate to the common folk what they two had studied together; upon which Aristotle replied that the doctrines remained as much a secret after being communicated as before.

It is not the place here to form an estimate of Alexander as a historical person. That in Alexander's education which should be ascribed to Aristotle's philosophical instruction is the elevation of the natural, peculiar greatness of his inborn talents to internal freedom, and to perfect self-conscious independence such as we see in his plans and deeds. Alexander attained that perfect self-possession that alone gives infinite

keenness of thought, and that independence of particular, limited plans, as well as their elevation to perfectly universal aims involving the reduction of the world to a common social life and intercourse, through the establishment of states in which individual caprice was to be removed. Alexander carried out the plan which his father had already formed, namely, to lead Greece against Asia, and to avenge Europe by subjugating Asia and making it tributary to Greece. Thus as the Greeks enter history at the beginning united in the Trojan war, they are also united again only at the close of the history of Greece proper. Alexander revenged at the same time the faithlessness and cruelty that the Persians had shown towards Hermias, the friend of Aristotle. But more especially Alexander extended Greek culture over Asia with the purpose of elevating that wild, merely destructive, self-sundering mass of barbarism—that land sunk in complete negligence and spiritual degradation—of elevating this into a Greek world. And when it is said that he was only a conqueror, and that he knew not how to found a permanent state, his kingdom being divided after his death, this is correct if considered in a superficial manner—namely, his family did not retain possession of this dominion; but the rule of Greece was permanent. Alexander founded a wide kingdom not for his own family, but for the Grecian people; for after his time Greek culture and science became indigenous there. The Greek kingdoms of Asia Minor and of Egypt were for centuries the seats of science; and their effects may have extended as far as India and China. We do not know precisely whether the Indians did not obtain the best of their sciences in this way; but it is probable that the more definite parts of their astronomy came to India from Greece. The Syrian monarchy, which stretched far eastward into Asia to a Greek kingdom in Bactria, is doubtless (in its Greek colonies which settled there) the source from which China obtained the few scraps of scientific information possessed there, and which have been handed down by tradition, but have not accumulated interest. For the Chinese are so inexpert as not to be able to make a calendar, and they seem to lack the very idea of such a thing. They have preserved old instruments which serve them no purpose, and the most

probable conjecture is that they came from Bactria. The high opinions formed of the sciences of the Chinese and Indians are without foundation.

According to Ritter, (*Erdkunde*, vol. ii., p. 839, 1st ed.) Alexander was impelled not merely with the idea of conquering, but with that of becoming himself the ruler. I am not of the opinion that Aristotle impressed upon his pupil this idea, nor that other [idea of being deified] connected with the Oriental mode of view. In the Orient still flourishes the name of Alexander as Ispander, and also as Dul-k-ar-nein, i. e. the man with two horns; as also Jupiter Ammon is an image of a more ancient hero. It may be a question whether the Macedonian kings did not lay claim to the dominion over that country on account of their pretended descent from the races of heroes of Old India. Whence also the expedition of Dionysius from Thrace to India could be explained; whether the "knowledge of this was not the real religious conviction which at bottom inspired the soul of the young hero, inasmuch as he, before his expedition into Asia, found Indian hierarchies on the lower Danube (in which the immortality of the soul was taught); and began his expedition to the Orient certainly with the advice of Aristotle, who was initiated into the wisdom of the Indians through Plato and Pythagoras; and he first visited the oracle of Ammon (now Siva), and then destroyed the Persian monarchy and burned Persepolis, which was the ancient foe of the Indian theology, in order to take vengeance for all the impiety committed by Darius on the Buddhists and their followers." This is an ingenious combination based on a thorough study of the connection of Oriental and European ideas as well as of the higher points of view in the treatment of history. But this conjecture is a different one from the historical view which I have embraced; Alexander's expedition has a quite other historical, military and political character than the one mentioned; and besides this, it has but little to do with the Indians: it is a conquering expedition in downright earnest. Aristotle's metaphysics and philosophy is, in the second place, quite free from any recognition of such crazy, sentimental fancies. The later elevation of Alexander to the rank of a general, hero, and god, by the Oriental phantasie is, in the third place, nothing strange or

wonderful; the Dalai-Lama is still an example of the same thing, and God and Man are not so widely separated after all. Besides, Greece inclined to the adoption of the idea of a god who had become a man, and not as a statue, cold and distant, but a present god in the godless world.: as in fact Demetrius Phalerius and others were honored and celebrated in Athens soon after this as gods. Moreover, had not the Infinite at this period entered into the self-consciousness? Fourthly, the Buddhists do not concern Alexander at all, and in his Indian expedition nothing is said of them; the destruction of Persepolis is sufficiently accounted for as an act of Greek retaliation for the temples that Xerxes had destroyed in Athens.

While Alexander was performing this great work — the greatest individual at the head of Grecian nationality — he never forgot the interests of art and science. We, in modern times, have seen warriors mindful of science and art in their campaigns; so Alexander caused preparations to be made for sending to Aristotle whatever new animals or plants were found in Asia, either the specimens themselves or else drawings and descriptions of them. This respect paid by Alexander to Aristotle furnished the latter the fairest opportunity to collect materials for the knowledge of Nature. Pliny (*Hist. nat.* viii. 17 ed. Bip.) relates that Alexander commissioned some thousands of men, who lived by hunting, fishing, and bird catching, as overseers of the parks, aviaries and fish-ponds of the Persian kingdom, and instructed them to furnish Aristotle everything worthy of note from all places. The effect of Alexander's expedition into Asia upon Aristotle's labors was such as to place him in a position to become the father of Natural History; and Pliny tells us that a work on Natural History was composed by him in fifty parts.

After Alexander entered on his expedition to Asia, Aristotle returned to Athens and appeared as a public teacher in the Lyceum, an enclosure which Pericles had used for a place to drill his recruits. It consisted of a temple dedicated to the Lycian Apollo, and walks ornamented by trees, fountains, and colonnades. From these walks, his school received the name of "Peripatetic," and not, as sometimes reported, from Aristotle's walking about while he delivered his lectures.

He lived as teacher in this way thirteen years in Athens. On the death of Alexander, there burst forth a storm which, as it seems, had been for a long time restrained through fear of Alexander; Aristotle was accused of impiety. The details are differently given. Among other things, it is related that his crime was found in his hymn to Hermias and the inscription on the statue dedicated to him. As he saw the storm approaching he fled to Chalcis in Eubœa, the present Negropont, in order, as he said, not to give the Athenians an opportunity to sin against Philosophy again. At that place he died in his sixty-third year—Olympiad 114, 3 (322 B.C.)

His Writings.

The sources for his philosophy are his writings; but if we consider their external fate and their external character, the difficulty of making out his philosophy from them will seem to be very great. I cannot enter much into details on this point. Diogenes Laertius (v. 21–27) mentions a very great number of them by their titles; however, we cannot tell exactly which of the ones he names are still extant, for his titles are quite different from those we use. Diogenes gives 445,270 as the number of lines; if we reckon about ten thousand lines to an alphabet [or complete work; Homer's *Iliad* contains twenty-four books, a complete alphabet], there would be forty-four alphabets; what we still possess amounts to about ten alphabets, so that we have about a fourth part of his works. The fate of the Aristotelian manuscripts is so reported as to leave us in doubt as to whether we may possibly hope to possess a single one of his writings in a genuine and uninjured shape. Doubts regarding their authenticity could not under these circumstances be prevented; and we must rather express surprise that they have come to us in as complete a shape as they have. Aristotle wrote, as is related, manuscripts little known during his lifetime, and left them to his successor Theophrastus, with the rest of his numerous library. This is, indeed, the first important library; it arose through his own wealth and the assistance of Alexander; and by it is explained the erudition of Aristotle. Later, it came, partly at least, or copies of it, to Alexandria, and formed the nucleus of the Ptolemaic library, which became a prey to the flames

on the entrance of Julius Cæsar into Alexandria. Of the manuscripts of Aristotle, however, it is related that Theophrastus bequeathed them to a certain Neleus, from whom they passed into the hands of ignorant persons who took no pains in preserving them; or, as others state it, the heirs of Neleus, in order to save them from the king of Pergamus, who was very zealous in collecting a library, buried them in a cellar, where they lay forgotten a hundred and thirty years and thus became sadly damaged. Finally, the followers of Theophrastus discovered them again after much research, and sold them to one Apellicon of Teios, who again restored what had been destroyed by worms and rot. But for this labor he did not possess the requisite learning and skill: wherefore others have applied themselves and filled out the gaps according to their best judgment and have restored the destroyed portions, so that they by this means have been much changed. But this was not all. Soon after Apellicon's death the Roman Sylla conquered Athens, and among the spoils which he sent to Rome were the writings of Aristotle. The Romans, who had but just begun to make the acquaintance of Greek science and art, and not yet rightly to prize Greek Philosophy, were not able to extract anything of value from this booty. A Greek, Tyrannio by name, obtained permission to use the manuscripts of Aristotle and to bring them to notice, and he prepared an edition of them, which, however, bears the reproach of being inaccurate; for here they had the fate of being placed by the booksellers in the hands of ignorant copyists, who allowed a multitude of corruptions to creep into the text.

Such the sources of the Aristotelian Philosophy are described to be. Aristotle, in his lifetime, published much — namely, his manuscripts in the Alexandrian library; nevertheless, these works do not seem to have circulated much. Several of them are in the highest degree corrupt, full of omissions and (the Poetics, for example) incomplete. Several (e.g. the Metaphysical writings) seem to be made up in part from several different works; so that the higher species of criticism has here a field for the exercise of all its acumen, and while with much show of probability one theory is presented and defended, on the other side another view is

defended with equal force. So much is certain, that the writings of Aristotle have been injured, and are disconnected in individual parts and in important particulars; often, verbal repetitions of entire passages occur. Since the evil is so old there is no radical cure to be expected for it; meanwhile the case is not quite so bad as it looks from such descriptions. There are many of his chief works which may pass for entire and uninjured; and others there are which are only here and there injured, or else not well arranged, but the body of the works not so much affected as it might seem. What we have is sufficient to place us in a position to form a definite idea of the Aristotelian Philosophy, both in its extent and compass, and also in much of its details.

But there is still a historical distinction to be drawn. It is an old tradition that Aristotle delivered two kinds of lectures and wrote two sorts of works: *esoteric* (or *acroamatic*) and *exoteric*; — a distinction which is also made by the Pythagoreans. The esoteric discourses he is said to have held in the Lyceum during the morning hours, the exoteric in the evening; the latter are said to have consisted in the exercise of rhetoric and disputation, and to have had reference to fitting for civil employments; the former, however, to have concerned the inner and deeper philosophy, the consideration of Nature, and the dialectic proper. This circumstance is of no importance; one may see for himself which works are really speculative and philosophic, and which ones are to a greater extent of a merely empirical nature; they are not for this reason, however, to be looked upon as opposite in content, as though Aristotle wrote some things for the people and other things for his intimate disciples.

What is included under the name Aristotelian.

a. In the first place, it is to be remarked, that the name "Aristotelian Philosophy" is very vague, since what one calls by that name has had in different times very different shapes. First, it denotes the real Aristotelian Philosophy. Secondly, in the time of Cicero, particularly under the name of Peripatetic, it had assumed the form of a popular philosophy dealing chiefly with natural history and morals; this period seems to have had no interest in cultivating the deep and

really speculative side of the Aristotelian Philosophy and in gaining an insight into it. Hence in Cicero we find no trace of this side. A third form of the same is the Alexandrian Philosophy, speculative in the highest degree; its writers are usually known as New-Pythagoreans or Neo-Platonists, but they have as good a title to the name New-Aristotelians. The form which they use, and which is considered to be identical with the Platonic, is rather Aristotelian. Another important sense of the Aristotelian Philosophy may be named as the fourth one: that in which it is identified, by not over-exact scholars, with the Scholastic Philosophy of the middle ages. The scholastics busied themselves a great deal with Aristotle; but the shape which his philosophy assumed under their hands we cannot hold to be its genuine form. None of the amplifications nor the entire extent of the formal Metaphysic [*“Verstandes-Metaphysik”*] and logic which we find in scholasticism belong to Aristotle. The Scholastic Philosophy proceeds only from the traditions of Aristotelian teachings. And first, when the writings of Aristotle became known in the west—namely, at the time of the decay of scholasticism and the revival of learning—a *fifth* form of his philosophy took its rise, and in part as opposed to scholasticism; for only after the Reformation were the sources sought in Aristotle himself. The *sixth* sense of the expression Aristotelian Philosophy includes the recent distorted ideas and interpretations such as, for example, one finds in Tennemann, who is endowed with too little philosophical acumen to be able to seize the Philosophy of Aristotle. At all events, his is the common idea which now prevails regarding the Aristotelian Philosophy, to wit: that it sets up for its highest scientific principle what is called *Experience*.

His Style of Exposition.

b. Although to identify Aristotle's method with empiricism is to form a false idea of it, yet the occasion for such a mistake exists in his style of exposition. Some particular passages are selected for this purpose, and are taken in their isolated meaning in order to prove this view. We have, therefore, to speak here of the Aristotelian style. Since, as before remarked, we are not to seek in Aristotle a System of Philos-

ophy whose parts can be strictly deduced,—since he seems rather to take an external beginning and an empirical procedure, his style is often that of ordinary argumentation. But Aristotle has the peculiarity in this procedure of being thoroughly and in the deepest sense speculative. His style consists, when more closely examined, in this: *first*, to bring together and seize the phenomenon as a thinking observer. He gets the sensuous phenomenon [*Anschauung*] before him in its entire completeness, and omits nothing, be it ever so common. All sides of knowing enter his mind, all interest him; all are handled by him with depth and exhaustiveness. Abstraction may easily get confused in the empirical extent of a phenomenon, and be at a loss how to find its application and verification, and be obliged at last to take up with a partial procedure without being able to exhaust all the phases of the phenomenon. Aristotle, however, in that he takes into consideration all sides of the Universe, seizes the whole of each individual sphere, as a speculative philosopher, and treats it in such a manner as to arrive at the deepest speculative idea of it. We see [by degrees in his treatment] thoughts first emerge from the Sensuous phase and pass over into the sophistry of that stage of thinking which deals with the Phenomenon. In perception, in conception, the categories make their appearance; the absolute essence, the speculative view of these moments is always expressed in the utterance of perception. This pure essence of perception is seized upon by Aristotle. *Secondly*, when he, on the other hand, begins with the universal, the simple, and passes over to its definition, he has the appearance of one who counts up the various senses in which the subject is employed; and in these various senses he goes through all the species, even the common and sensuous ones. He speaks in this manner, e. g. of the different significations in which the words *οὐσία*, *ἀρχή*, *αἰτία*, *ὁμολογία*, &c., are used. It is sometimes tiresome to follow him in this mere enumeration, which proceeds without [inherent] necessity, and in which the series of meanings seem to be collected in an external manner, and to be akin only in a vague or abstract sense and not according to their determinatenesses. But this mode of procedure presents the moments in their completeness, and, moreover, it stimulates

one to finding for himself the necessity [that dwells in them]. *Thirdly*, Aristotle brings up the various thoughts which the earlier philosophers held, and refutes them, often in an empirical way, correcting their onesidedness with manifold reasons and arguments. After this he comes to the true speculative definition: *fourthly* and finally, Aristotle passes to the speculative consideration of the subject itself of which he is treating, be it, for example, the soul, feeling, memory, thought, motion, time, place, heat, cold, &c. &c. Since he takes up all the moments [elements or phases] that are contained in the representation of the object, as if bound up together, he does not omit any determinateness, nor hold fast first to one and then to another, but holds them all at the same time in one: the habit of Reflection, or of the understanding, on the contrary, having the principle of identity for its rule, manages to get along only by forgetting and abstracting from all other determinations than the one with which it is immediately engaged. Aristotle, however, has the patience to investigate all views and all questions; and from the examination of the individual determinations comes forth the firm-abiding determinateness of the object. Thus Aristotle arrives at the ideal totality [*Begriff*], and is really philosophical in the highest degree while he seems to be merely empirical. His empiricism is of a total, or entire, order, through the fact that he always brings it back to the speculative [i.e. shows the indwelling necessity of what at first seemed accidental]; it may be said, therefore, that as a complete [exhaustive, absolute] empirical investigator, he is at the same time a speculative one. For example, if we should take up empirically *all* the determinations of space without omitting any, this would be a speculative procedure in the highest sense; *for the empirical, comprehended in its synthesis, is the speculative Idea.*

In this faculty of bringing together determinations into one thought, Aristotle is great and masterly, as well as in the simplicity of his procedure, and in giving judgments in a few words. This is a method of philosophizing which possesses great effectiveness, and which has been employed in our time, e. g. by the French. It deserves to come into more frequent use; for it is an excellent thing to reduce the different aspects

of ordinary views regarding objects to the unity of thought, and thus to bring them together into one necessary idea. But, of course, this method has the appearance of being empirical in one respect—namely, in this, that it takes up these objects in the order it finds them in our consciousness of them; and as there is no necessity in this procedure of taking them up, it becomes an external affair of style. Still we cannot deny that sometimes Aristotle does not aim to reduce all to unity, or at least to a unity of antithetic elements; but, on the contrary, to hold fast each one in its determinateness, and thus to preserve it. That procedure [of reduction to unity] may be sometimes a very superficial affair, e.g. when everything is brought to a single empty determinateness, like that of Irritability and Sensibility, Sthenic and Asthenic; but, on the other hand, it is also necessary to apprehend reality in its simple determinateness,—of course, without making the latter [i. e. the simple determinateness] the point of procedure in the way just mentioned. But Aristotle, on the contrary, abandons a determination only when he has traced it into another sphere wherein it retains no longer its former shape; but he shows what form it now takes, or what change it has undergone. And he often treats one determination after the other without explaining their connection. In his own speculative thinking Aristotle is as deep as Plato, and at the same time more developed and conscious; for the antitheses obtain in his treatment a higher degree of definiteness. There is lacking, indeed, the beautiful form that Plato gives to his expositions, that sweetness of language, or—one might almost say—of gossip, that tone of conversation which is at once lively, cultivated, and humane. But in those places where we find Plato endeavoring to express the speculative idea thetically, as for example in the *Timæus*, we see the defective and impure mingling with the pure thought, and the latter disappear, while, on the contrary, Aristotle under similar circumstances expresses it pure, and comprehends it. We learn the object in his definition, and the definite concept of it; moreover, Aristotle penetrates speculatively into the nature of the object, but in such a manner that it remains in its concrete determination, and Aristotle seldom reduces it to abstract categories. The study of Aristotle is consequently inexhaus-

tible ; but the exposition thereof is very difficult for the reason mentioned, i. e. that it does not reduce its content to general principles. Hence in order to present the philosophy of Aristotle, one must take up the special content of each work. If the proper earnestness in Philosophy were felt, nothing would be more worthy of undertaking than a special course of lectures on Aristotle, for he is of all the ancients the most deserving of study.

Definition of the Aristotelian Idea.

c. The next point should be the definition of the Aristotelian Idea ; and here is to be made a general remark to the effect that Aristotle begins with Philosophy as such, and first discourses on the *worth of Philosophy* in the second chapter of the first book of *Metaphysics* : "The subject-matter of Philosophy is the most knowable [i. e. most capable of certainty], to wit, principles and causes," i. e. the rational. "For through these, and by these, all other things are known: principles are, however, not to be known through substrates (*ὑποκείμενα*)." In this we see him take his stand against the ordinary mode of view. Aristotle, has, moreover, stated the chief form of investigation, or the most essential form of knowing (*ἐπιστήμη ἀρχαιωτέρα*), to be the knowledge of FINAL CAUSES: and that this is the good of each thing, or in general the best in nature as a whole. This reminds one of the doctrine held by Plato and Socrates; yet Final Cause is true and concrete, as opposed to the abstract Platonic Idea. Aristotle says in the next place, speaking of the worth of philosophy: "Man has come to philosophy through wonder"; for in it there is at least the intimation of a knowledge of a higher. "Wherefore if men began to philosophize in order to escape ignorance, it is clear that they pursued scientific knowledge for the sake of knowing it, and not for any utility it might possess. This is also shown by the entire external course of events. For first after men have supplied their necessary wants and those requisite for ease and comfort, they have begun to seek philosophical knowledge. Therefore we seek it for no ulterior utility: and so as we say that a free man is such as exists only for his own sake and not for the sake of another, thus is Philosophy the free science among

sciences, for it alone exists for itself,—a knowing of knowing [science of knowledge]. Wherefore this is also with justice considered to be not a human acquisition”—i. e. man does not possess philosophy so much as it possesses him. “For in manifold ways the nature of man is dependent; so that, according to Simonides, God alone has this prerogative (*γέρας*), and yet that it is unworthy of man not to seek that science which is adapted to his capacity (*τῇν κατ’ αὐτὸν ἐπιστήμην*). If, however, the poet is right and envy belongs to the divine nature, then all who desire higher things are unfortunate”; Nemesis punishes that which elevates itself above the commonplace, and equalizes all things again. “But the divine cannot possess envy,” i. e. so as to refuse to reveal itself and thereby prevent man from knowing it, “and as the proverb runs: the poets utter many falsehoods. Nor ought we to hold any other science to be more honorable; for that which is most divine is the most honorable.” That which possesses and imparts the most excellent is honored; the gods are thus to be honored because they possess this science. “God is held to be the cause and principle of all; therefore God possesses this science alone, or in the most eminent degree.” But precisely on this account it is not unworthy of man to desire to attain this highest good of which he is capable, this God-pertaining science. “Other sciences may be more necessary than Philosophy, but none is more excellent.”

The details of the Aristotelian Philosophy, the general idea with its particular divisions,—to give these is difficult; for Aristotle is far more difficult to understand than Plato. The latter has myths, and one may omit the dialectical portion and still say that he has read Plato; but Aristotle always moves in the speculative. But he seems always to be philosophizing only on the individual, the special, and not to arrive at what is absolute, universal, or God; he goes on from particular to particular. His daily work is to consider what *is*, and he goes at his task as a professor does to his work laid out for the semester; and as he takes his readers through the whole mass of the world of conceptions, he gives the impression that he knew Truth only as existing in the particular—only as a series of special truths. This has noth-

ing brilliant in it, since he seems not to have elevated himself to the Idea (as Plato speaks of the "splendor of ideas"), nor to have reduced the individual to it. But if Aristotle has omitted to treat the universal Idea in a logical manner (for otherwise his so-called logic, which is something entirely different, would be recognized as an exposition of the method in which the one Idea appears in all), yet on the other hand the one Absolute, the Idea of God, appears in Aristotle's Philosophy, but as a particular somewhat, side by side with the others, notwithstanding it represents all truth. It is just as if one should say: "There are plants, animals, men, and besides these *God, the most excellent.*"

From the total series of ideas which Aristotle goes over, we will now select specimens in detail from the special provinces. *First*, I will speak of his Metaphysics and its characteristics; *secondly*, of the special sciences which Aristotle sketched, giving the fundamental idea of Nature as he defined it; *thirdly*, I will mention some things of spirit [Mind], and of the soul and its conditions; after this [*fourthly*], the logical treatises of Aristotle will form a conclusion to the whole.

THE VENUS OF MILO.

Translated from the German of HERMAN GRIMM, by ALICE S. MILLARD.

Before me stands the mask of the Venus of Milo. After years, I look upon it daily, sometimes indifferently, sometimes with foreign thoughts, without knowing what I have before me, and suddenly it is there again as if I saw it for the first time, more beautiful than I ever beheld it. Whatever adorns and exalts a woman in our eyes is united for me in these lineaments. I think upon the reserved dignity of the Juno and find it repeated here; I think of the rejected tenderness of Psyche, and her tears appear to roll down these cheeks; I think of the captivating smiles of Aphrodite,—it plays around these lips.

What a curve to these lips! The upper one protruding gently in the middle, then receding on both sides, then again

gently swelling, and finally sinking in the corners of the mouth, which is open; only a little. Does she speak? Does she sigh? Does she breathe-in the sacrificial smoke which rises to her? All; whatever one thinks she is doing, that she does. Daintily and with a slight dimple under it, as though it would almost divide it, lies the under lip beneath the upper, which overarches it a trifle, in the manner one often sees in children; but nothing small or tiny comes into these marvellous forms. Softly moulded off and amply rounded, the chin projects, and a full, strong roundness lies between it and the neck, which, neither delicate like the Venus de Medici nor slender like the Diana with the stag, is yet of most perfect symmetry, needing no further embellishing epithet.

The eyes appear small, yet one notices this only when one examines them singly. The eye-lids are thin and without sharp contour. How differently they stand out in the Pallas Athene of Phidias, in which one almost seems to see the threatening eyelashes and the flashing eye which they shade. And this statue is not attributed to Phidias, but to his more impressible and less severe follower Skopas, or his school. The brows are slightly arched, and pressed down upon the eyes. The forehead is low and broad; the cheeks not full, but broad; the bridge of the nose not low, but gradually converging between the eyes, then again diverging and blending with the cheeks, and finally at the end resuming afresh a more distinct form. Yet here there is nothing sharp nor angular in its formation; full and softly rounded, even slightly drooping (in profile one of the most delicate lines), it corresponds to the dilated nostrils and the open mouth, whose upper lip begins with delicate blending almost immediately under it.

Considering every part by itself, one feels a temptation to find each separately too strong; but if one compares the parts with each other, they appear almost too small. I shall not seek to explain this, and indeed I know not the reason. This contradiction strikes me only when I inspect the head closely and for a long time. But however often one may take it and study it, there will always appear new and surprising lines, and yet never even the most insignificant curve that one could

wish otherwise. Lights and shadows work magically upon it when one brings a light to it in the evening, in different positions. Then all lives before you; the lips tremble, the eyes flash, and the cheeks swell. What appears by daylight an empty, smooth outline, receives in the uncertain glimmer life-like expression; on the forehead appear transitions, an imperceptible modelling, and one seems to have discovered what lends the eyes such charm, for there seem drawn around them great, wonderful cavities, from which they beam forth so radiantly. A smile nestles in the corners of the mouth, such a smile as only the Goddess could give who yielded herself to mortals, and yet never was weak and mortal herself. If the face alone says so much, what of the entire figure!

Universally it is acknowledged as the most beautiful that remains to us of ancient art. I do not know the original, only the cold, gypsum cast, set up in the new museum here, in a position in which the light falling from one side invests the figure with indifferent light and shade. And yet the place is not unfavorable. It stands alone in a niche. One can approach it very close, and then withdraw; one feels the noble repose, the majesty of the appearance; one would fain turn from it;—and yet so many years have passed since the artist applied his chisel for the last time, and there no longer lives a people who reverence her as the symbol of eternal feelings.

The charm of novelty is not frivolous; the age in which we live is the best, better than all that have gone before; the spring, whose air we breathe, the most beautiful,—its nightingale song sweeter than those of the year that is past. It is impossible to conjure ourselves back into the feelings of past ages. What remain to us from those palmy days of art, no longer possess for us that charm which was once its greatest. The people live no longer who embraced the artist and his works through which he unveiled the mysteries of his own being, which at the same time were those of his people.

What to me is this figure of a Goddess? Of what use to me are the thoughts which it awakens in me? They are an unfruitful longing foreign to myself. As soon as it begins to speak, I look upon her; I think, thus she arose from the foam of the sea, pure, like the waves from which she sprang;

her soul shining through the unveiled limbs as for us the most beautiful limbs appear through folds of graceful drapery. Not like the Venus de Medici, around whom hovers a rosy cloud of grace, loud with the rushing of the wings of her doves that bear the earthly delight to the skies, but freely as Prometheus brought down the fire, she appears to have caught the spark of celestial love in order to lend it to the race that reverently looks up to her. I see a temple through whose open roof a warm, softened light streams upward—an altar from which the veils of sacrificial vapor arise; there she stands faultless, untouched by rough hands' (whether of those who overthrew her, or of those who re-exhumed her); roses lie at her feet, and the maiden that now tremblingly looks up to her, saw her in her childhood standing there, and smiling, as if it were impossible she should not divine her secret and grant any wish the heart dared cherish. The temple was her own from the lowest step to the pinnacle of the gable, animated by the mysterious rhythm of symmetry. From its top a view of the mountainous isles of Greece, of the sea from which she rose, and of the heavens whose blue was caught up from its waves, but in heart freedom; and all around, the rapid ships coming and going in swarms, carrying victorious warriors, and at the oars the slaves whom they had captured, in fettered servitude.

Those who lived then saw the Goddess with other eyes than we, who look upon the shattered form, whose temple and altar have vanished, of whom we know nothing, not even so much as by whom and when she was finished, where she stood, or even how the arms were formed, whose beauty we nevertheless seem to divine from the magnificent shoulders from which they have been ruthlessly torn. Surely she is fair. Admiration and astonishment she awakens! Fancy bears us back forcibly to her times, yet she remains a stranger among us, and, while we are lost in the beholding, a low voice reminds us there is now no heart for us in this beauty.

This statue affects me as do the Poets of Greece, who touch my deepest emotions, but (if I stop to reflect) more through a cold compulsion than because I fully give myself up to them, and, unsatiated, demand more. Orestes and Œdipus, Iphigenia and Antigone, what have they in common with my

heart? Involuntarily we invest them with what we wish to find in them, and enjoy the delusion—but it is only a delusion.

Time and peoples pursue ways too diverse. The world divides itself into freemen and the slaves. People made war upon each other only to extirpate each other—other laws, other family ties, another pity, another ambition, rest and motion other than those we apprehend and demand. The Poet truly rises above his time, and yet he is unthinkable apart from his own time. The higher the blossom aspires towards the sun, the deeper do the roots strike downward into the earth which bears them and others. A dull echo of all these things comes back to us and causes wonderment from the works of the old poets, penetrates everything that pertains to antiquity, and fills us with vague surprise. It is a partition-wall raised between them and us. This wall may be transparent, as if built of purest crystal, and yet it remains insurmountable. An all-overstretching impulse toward equality of rights, before God and the Law, alone controls to-day the history of our race. Therein are rooted all our usages and feelings. We are living, those times are dead. Our passionate aspirations cannot find their satisfaction in what was intended to satisfy the long-ago realized longings of long-departed ages. These creations, even if they were yet more beautiful and wonderful, are no more a necessity for us. They will never be destroyed through our negligence. They will ever tell us what their masters attained,—how they gave themselves up entirely to Nature as the only way to enable them to give form to what is great. Our leisure they will always delight, but our passions they will never soothe. Should Homer suddenly fail us, the tragic poets, Pindar and others—were all the monuments of ancient art to be destroyed, an immense loss would be ours. But would we give up Goethe, Shakespeare, or Beethoven, in order to regain them? Would we hesitate if here should lie all the works of Michael Angelo, Raphael and Murillo, and there all the treasures of the ancients, and the choice were given us? Let us enjoy them both; let us not imitate the senseless procedure of those who would take the study of the classics out of the hands of our youth; but let us feel the difference between that which

is closely related to us, and that which we wonder at—that which moulds and instructs us, and that which we verily cannot excel even if we attempted it.

THE PHILOSOPHY OF MATHEMATICS.*

By RICHARD RANDOLPH.

The natural antithesis of Matter and Spirit finds expression in the Hegelian paradox that Being and Not-Being are identical. As all language is at best but the expression of impressions, and even current language only that of impressions generally prevailing, it is evidently in vain to demand absolute truthfulness in its use. Being indeed wholly symbolical in its nature, its very accuracy is contingent upon a certain degree of imagination in the parties to its use. Viewed as an ultimate rule, "the letter" thus necessarily "kills." It is enough that it be comparatively true, or that every new utterance shall exhibit a progress in the work of defining the independent consistency of truth, and its own dependent inconsistency. So far as Matter and Spirit are distinct ideas, Matter is certainly not Spirit, and Spirit is certainly not Matter. Whensoever, therefore, owing to the limitation of our natural faculties we may be conversant solely with the realm of Matter, while the changes in that realm actually indicate the presence of Spiritual Force, our impression of the result naturally suggests the expression that nothing is something. And, on the other hand, we may be so exclusively engaged in contemplating the higher or spiritual aspects of our experience, as to withhold from the lower even the restricted acknowledgment which is their due, and so with equal verisimilitude affirm that their something is nothing. Being and Not-Being, it might be thus argued, must be occasionally identical, until all antithesis shall be merged in synthesis,—until all mysteries shall be fathomed, at least so far as

* The Philosophy of Mathematics with special reference to the Elements of Geometry and the Infinitesimal Method. By Albert Taylor Bledsoe. A.M., LL.D., late Professor of Mathematics in the University of Virginia. Philadelphia: J. B. Lippincott & Co.

their mastery is contingent upon perfect self-knowledge and clear recollection or collectedness.

Physics, or the Science of unconscious Matter, and Metaphysics, or that of conscious Mind, the one embodying the secret principles of Mathematics, and the other those of Theology, may be said to be the parents, in human experience, of all the special sciences, or constituent branches of knowledge. The natural sciences of Botany and Zoology can no longer in any light be regarded as constituting a distinct realm, it being now thoroughly established, that to the mere statistician, or *a posteriori* student, there is no definable line of demarkation between the lowest manifestations of vitality and those of human intelligence; while to the *a priori*, and, if there be such a class, to the *a superiori* thinkers, unconscious vitality readily falls within the realm of physics. Even in the generation of Science, however, vice is transmissible from parent to progeny. There has never as yet been in the general consciousness any true marriage between Theology (or Metaphysics) and Mathematics (or Physics). The minor "ologies" have all been born out of wedlock, and deformity and discordance have been the more or less obvious results. The harmonizing of the parent principles may be said to be the great desideratum of our day.

Professor Bledsoe has done good service in this direction by the collation of authorities, and the devotion of much independent research in exposing some of the defects in accepted views of "the infinitesimal method," which has hitherto been regarded as a doctrine or aspect of mathematical truth peculiar to the Differential and Integral Calculus. The so-called "Transcendental Analysis" has been heretofore as great a bugbear to the young mathematician as the Transcendental Philosophy has been to the incipient metaphysician. Thanks to the new inspiration of which Dr. Bledsoe may be regarded as a pioneer exponent, Transcendentalism in Mathematics is now in a way to become, and so to be recognized as being, but "the perfection of common sense." He has made undeniable progress in that precision of language which attends coherency of thought, and which, by placing the student upon a firm ground of intelligence, furnishes him with the surest facilities for fresh

construction and widened exploration. Whether the train of suggestion which is thus started shall result in establishing the doctrine of Wedgwood that Space is only cognizable as a quality of Matter, so that all the demonstrations of Geometry must contemplate the presence of at least infinitesimal magnitudes, or whether it shall leave the hypothetical axioms of Euclid still standing in their isolated grandeur,—whether or not our author may have uttered the last word upon the mysteries of Nihility and Infinity in his profound and entertaining chapter on those subjects,—we welcome this work as an important contribution to the reformation and advancement, not only of mathematical, but of all connected, and all dependent science. Traditional truth is ever precious. But the older the world grows, the more urgent is the necessity of our going behind tradition, for the very sake of estimating such truth at its just value. It may be a cure for the superstitious awe and paralyzing dread which often prevent competent minds (and what mind, if it have but leisure, is not competent?) from the pursuit of science, to be led to contemplate the glaring oversights which have befallen the most famous of its explorers at the very outset of their career, and the consequent inveterate confusion, almost consecrated sometimes by mere antiquity, which pervades the several departments of science as traditionally taught. The advance of all science towards the perfection of simplicity must reveal and correct such oversights and blunders, especially as the essential unity of the constituent departments becomes increasingly demonstrable, so that the results of each contribute to the illustration of all. As the reader may have observed, we question the permanence of the traditional doctrine which bases Mathematical Science upon intuition held to be independent of experience, and therefore indistinguishable from hypothesis, and anticipate the day when it will be avowedly built, with everything else which bears the name of Science, upon the foundation of pure observation.

There are but few instances in which Dr. Bledsoe seems to us to be himself open to criticism, of which few we think it only necessary to specify that he does not appear to recognize the important principle, that quantities may be inappreciably small in themselves, or in any actual combinations,

and yet have a definite value in their ratio to one another. This, to us, is *his* glaring oversight. But he may, we think, be said to have fathomed and rectified the intricacies of the Calculus so far as this can be done without extending a similar exhaustive research to the Philosophy of Mathematics in general; and he may be said at least to have "taken the bull by the horns" in commencing with the most difficult section of his subject. We await with interest the appearance of his treatise on Analytical Geometry, which we understand to be nearly or quite ready for publication, and of any future researches in the same spirit as those now before us, which, by exhibiting still more perfectly and forcibly the adaptation of all Mathematics to the service of the universal mind, may, by their reflected light, cast a much needed illumination on the universal laws of intelligence.

THEISM AND PANTHEISM.

[We have lately received from Dr. Franz Hoffman, Professor of Philosophy at the University of Würzburg, a pamphlet entitled "Ueber Theismus und Pantheismus, eine Vorlesung gehalten vor einer Versammlung, &c., zu Würzburg, am xiv. März 1861." Dr. Hoffmann is already known to our readers (Jour. Sp. Phil. vol. i. p. 190) as an ardent defender of the doctrines of Theism against Pantheism. He is spoken of by Dr. Rosenkranz (Jour. Sp. Phil. vol. ii. p. 55) as the "most distinguished representative of the Philosophy of Baader." Whether right or not in charging Hegelianism with Pantheism in any of its forms—e.g. disbelief in the immortality of the soul, or in the personality of God—all clear-minded thinkers will agree that his labors in behalf of Theism are commendable at least in their spirit. "God, Freedom, and Immortality," form the great triune principle on which is founded the only positive solution of the Problem of Life. It is with great pleasure, therefore, that we recognize in the sharp outline here given (which includes pages 8 to 13 of the pamphlet above mentioned—translated for us by Mr. Snider) the same essential purpose that we sketched in the logical superstructure forming the conclusion to our article on the Immortality of the Soul (Jour. Sp. Phil. vol. iv. p. 109). This demonstration, in which Dr. Hoffmann follows Professor Ulrici,

unless we are utterly mistaken does not arrive at different results from those of Hegel or of his followers, and it is a profound mystery to us how Dr. Hoffmann can charge Rosenkranz with anything Pantheistic, or with expressing any doubts as to Hegel's belief in the immortality of the soul.* It

* Under the date of February 16th, 1870, Dr. Hoffmann wrote us on this subject, among other things saying the following (in Mr. F. Berg's translation):

"Rosenkranz, in his work *Hegel als der National Philosoph*, took no notice of my essay on Hegel, Rosenkranz and Baader, probably because he did not receive it in due time. His representation and critique of Baader I cannot acknowledge as sufficient, and I take the liberty to warn others against taking it as objective, correct, and proper. Rosenkranz makes Hegel assert the personality of God, and deny the individual immortality. Supposing this to be the doctrine of Hegel, it would in this respect not differ from the doctrine of Oken, certainly a very surprising result. But you certainly know how differently Hegel is interpreted and understood. There was distinguished a centre, a left, and a right wing. As representatives still living we may consider Rosenkranz, Michelet, and Erdmann. Rosenkranz says, as I before mentioned, that Hegel asserted the personality of God, and denied the individual immortality; Michelet makes Hegel deny both; Erdmann understands Hegel to assert the personality of God, and immortality. Who is right, and how is such a difference of interpretation possible?

"The persistency with which your Philosophical Journal is engaged with Hegel leads me to expect that you will some time or other enter into an inquiry and discussion about this question. You will concede that the whole future of Philosophy depends on deciding the question of the Personality of God; or rather, more definitely, whether scientifically the same can be decided or not; and if it can be decided, whether affirmation or negation is the truth. The Subject of Hegel in his Phenomenology, set up in the place of Spinoza's Substance, seems to speak for the interpretation of Rosenkranz and Erdmann. But what passages in the principal works of Hegel bear against it, I have tried to show: and Schelling in his critique of Hegel arrives at the same result.

"But if Erdmann's interpretation were, notwithstanding, correct, then Hegel would come very near Baader, and it might be understood how it was possible for Hegel to say that he thought he could agree with Baader. In all cases we should come to the conclusion that Baader ought to be studied not less extensively (thoroughly) than Hegel. The interpretation represented by Erdmann easily explains to us how Erdmann was led to introduce Baader into the history of Philosophy when no one before had done it. Deutinger's attempt in his "Principle of Philosophy" (*Princip der Philosophie*) was of no very great importance or consequence, while Erdmann's introduction of Baader into the history of Philosophy has resulted in his favor, and will produce still better results. Erdmann's attempt at a History of Modern Philosophy is, no doubt, known to you. His representation of Baader in the latter book is, in some respects, faulty; but the mistakes have disappeared in his shorter delineation in his History of Philosophy. The latter work (*Geschichte der Philosophie*) is before us in a second amended and enlarged edition, and should find a notice in your Journal. This work is full of thoughts (ideas), spirit, is impartial, and aims successfully after objectivity of representation. It deserves in a high degree your attention, and makes you acquainted with the most important philosophical literature.

seems to arise from the difficulty in mastering the modes of exposition of the Hegelians: a difficulty which forms the chief occasion of the mistakes made by Dr. Collyns Simon, the distinguished disciple of Berkeley, in his communications made to this Journal (Jour. Sp. Phil. vol. iii. p. 336 & p. 375), and in his articles in the British "Contemporary Review" (January and March, 1870). It is not the "style of expression," but the style of *exposition*, that makes the difficulty; and the Hegelian style of exposition, like that of Aristotle, is exhausting only because exhaustive: it presents the whole as a system. The Immortality of the Soul may be considered to be the subject-matter of Hegel's entire Philosophy. For he shows dialectically what is immortal, and what is not immortal, throughout the universe of mind and matter. He finds Mind eternal—not as a vague abstraction, for his caution against this is given early in the Logic (speaking of "*Etwas*" and of the "negation of negation") "not to hold fast to such generalities as Existence, Life, Thinking, &c., but to seize them in their reality as existing somewhats, living beings, &c." (cf. Werke, vol. iii. 2te Auflage, s. 114.) His whole philosophy is one continued demonstration of the concrete universality of the person against the abstract generalities of Pantheism (such, for example, as the "Humanity" of the Positivists). He would affirm with Leibnitz that only persons (Monads) exist. It were, perhaps, presumptuous in us to express ourselves so dogmatically on this point did it not seem so apparent at this distance that Hegel is known more through the traditions of his opponents than by faithful study of his own works. This it is that causes so much surprise among American thinkers when they read German reviews on the subject: Hegel in Germany is a man-of-straw which we who are confined to his original works know nothing of. It is so much easier in that country to go to the University and get Hegel from a course of lectures than to get him from those dry and prolix volumes which he left, that all this is quite natural.

Meanwhile let us join hands with Dr. Hoffmann, or any one else who defends Theism against Pantheism, and Immortality against absorption.—EDITOR.]

* * * * * But German Philosophy has already advanced so far, that with scientific certainty one may point out the principle whose completion is to be expected. To exhibit this principle and show up the necessity thereof, I have undertaken to-day, and I invite you to accompany me while I make the attempt, to lead you on to that high point from which opens before us a far-reaching prospect.

It cannot reasonably be denied, that a being *from and through itself*, i. e. an *absolute* being, must exist. If anything is, then there must also be a being from and through itself, an absolute being. Everything that is, must necessarily be either from and through itself, or by means of another. That something exists which is neither from and through itself, nor through another, is impossible. If anything has being which is not from and through itself, it must necessarily be through another. But if it is through another, then this other from which it derives its existence cannot in the end again be a being which is not through itself, but this other from which it derives its existence can only be a being through itself. Now we cannot deny that we ourselves, and the things which surround us, are. Consequently we cannot avoid the question, whether spiritual or sensuous existences, or both, exist from and through themselves, or not from and through themselves; in other words, whether they are conditioned or unconditioned existences. Human beings, or the souls of human beings, cannot be unconditioned; if so, they would have to be not only at all times, but above everything, self-sufficing, independent, and unchangeable. Neither can the things which surround us be conditioned; for they show themselves as having originated, and as in mutual dependence and changeable. But if it should be asserted that origination, dependence and changeableness concern only the phenomena of things, not their essence, and that the same be true of souls; that the multiplicity of phenomena points to a multiplicity of essences, and that corresponding to the many phenomena there must be as many unchangeable essences behind them,—then it could not be comprehended how a multiplicity of unchangeable essences could bring forth the perceptible multiplicity and variety of changeable phenomena, since owing to their rigid unchangeableness they would not be able to bring forth anything. Besides, the supposition of a multiplicity of unconditioned essences contains an insoluble contradiction. An essence from and through itself, hence unconditioned, which would have other unconditioned essences outside of and beside itself, could itself not be unconditioned. For in them a somewhat would have limits; if it were not what they were, it would inevitably be exposed to

influences from them. It would not simply determine itself from and through itself, and would therefore not be everything which it is, and what it appears to itself, viz. from and through itself. The essence which is from and through itself the unconditioned absolute essence, must also be the unlimited essence; it must also be everything unconditioned, the *whole* unconditioned without derivation of any determination of a primordial essence. There can, therefore, simply be but *one* unconditioned essence: its unity is as essential as its totality.

Hence, if there is an unconditioned essence, and that unconditioned can be but one essence, and in the one unconditioned essence must at the same time be all unconditionedness, then in this it is already involved that the one unconditioned must be an entity possessing consciousness and will. For if it were without consciousness and will, it would have its limits in that which has consciousness and will. It would be finite instead of infinite, it would be limited instead of unlimited. It could not be the conditioning, the cause of consciousness and will; it would not be unconditioned, because it would not be all unconditioned. If the unconditioned shall be the conditioning, the cause of all conditioned and originated, then it must be able to bring forth that which has capacity for consciousness and will as well as that which is without consciousness and without will. But it can bring forth that which has consciousness and will only if it itself is conscious and wills. For the cause must correspond to the effect, and what appears in the effect must be founded and included somewhere in the cause. Nothing can appear in an effect which is not established in the cause, which the cause itself does not share and possess; and this must be there valid without limitation, where the effect can be explained, not by several coöperating partial causes, but only by one single absolute cause. Hence it follows that only an entity possessing consciousness and will can be unconditioned, absolute, if it does not follow also that that which is not conscious and not willing could not be an attribute of the unconditioned. The conscious volitional entity being spirit, it follows that the Absolute in relation to the conditioned spirits is the original Spirit, and considered in and for itself, it is absolute spirit.

If the absolute is spirit, it is necessarily activity, self-activity, and pure self-activity, which creates perfectly from itself its deeds, which are thoughts, without the assistance of an Other. Absolute spirit is therefore the self-positing principle, and as such is that which is wholly without pre-supposition, is the primitive, first, which nothing can precede, but which precedes everything else in conception at least if not in time. As that which posits itself purely from and through itself, absolute spirit is everything which it is, necessarily all at once, through the one eternal and infinite act by which it produces its thoughts purely from itself. In this pure eternal and infinite act of the self-positing and self-creating of his thoughts, God actualizes only himself as absolute spirit. The being of the Absolute and its infinite determinateness [Nature] consists in the infinite totality of its thoughts distinguishing themselves in themselves, as thought by the absolute self-thinking principle. In its eternal self-position, absolute spirit distinguishes itself necessarily in itself as the self-positing, from itself as the posited. But the self-positing posits, in that which is posited, only itself. Hence it posits itself in the Posited as the self-positing. That which is posited, determined, is hence not merely determined, fixed, at rest, but likewise activity, motion. The positing principle is the Being without pre-supposition, that which is posited is the existence of the absolute; the former never becoming, never having become; the latter, the Being of the Absolute eternally become, both distinct, yet one. The transition of the Absolute from its self-positing into its being posited, from its self-determining into its self-determinateness, is hence the eternal becoming of the absolute. The absolute is thus to be grasped solely as the identity of that which eternally is and eternally becomes. Being, Becoming, Existence of the absolute, are one eternal act of the self-activity of the absolute. In this distinction in itself in which each of the distinguished elements—the absolute which is, which becomes, and which has become—is only the same absolute; it is the simple one, that which is identical with itself, that which connects together in the one act of self-distinction itself with itself. At the same time it is the Eternal and the positive Infinite. The productive acts of its self-activity as well as its immanent products,

its eternal thoughts, are necessarily ideas and the entire circuit of all possible and thinkable ideas. In the determinateness of its self-activity the absolute is necessarily objective to itself in itself, passes over immediately into opposition to itself, appears to itself in its activity as self-activity, and is reflection into itself. Therefore it distinguishes itself in itself as Essence and Phenomenon, as Ground and Consequence, as Substance and Modification. The appearance of the absolute is not appearance-for-an-Other, but *self*-appearance; Essence as ground does not exhaust itself in its consequence, but in its transition into the inexhaustible consequence remains relatively independent over against the same, and both are at the same time eternally identical and eternally distinct. In like manner substance has the same relative independence in opposition to its modifications. Substance reveals the wealth of its essence in the immeasurableness of the modifications, and the totality of modifications reflects the wealth of the substance. It is, however, still only the one self-identical absolute which as essence and appearance, as ground and consequence, as substance and modification, distinguishes itself in itself and connects itself with itself. This eternal and infinite transition from essence into appearance, from ground into consequence, from substance into modification, which is at the same time an eternal connecting of itself with itself, is the eternal life-process of the absolute, its absolute Life.

[*Remark by Dr. Hoffmann.*—"The results of the principle of the self-activity of the Absolute (as given by Ulrici) can not here be further followed out. Compare with the foregoing statements the not enough praised work of Ulrici: *Das Grundprincip der Philosophie*, ii. 297-302 ff. Also: *Gott, Natur und Mensch. System des Substantiellen Theismus*, von Dr. H. Schwartz."]

God cannot think himself—a thinking which in one act is also a willing—without at the same time eternally distinguishing the thoughts of himself from himself. The thoughts of himself as distinguished from himself are the archetype of the world, which, as it is equally eternal with God himself, cannot be separated from his all-perfection. For it cannot be thought that God completed himself forever, and that

later, after the lapse of time, the thought of the possibility of a world to be created, and hence the archetype of the world arose within him. Rather is the original idea of the world, the creative thought and will, eternal in God, and as eternal as himself; and likewise it cannot be accepted that between the creative thought and will, and the realization of this thought and will, a space of time intervened, for it must rather be said that in God thought, will and action in their distinctness are still but one act. Likewise it cannot justly be asserted that the created world is without a beginning. For it has its beginning in the creative act, which from the standpoint of Deity, indeed, is void of time; but time and space commence only with the act of creation; hence there is no time previous to the act of creation, nor are there any epochs of time dating backwards without end. Such epochs dating backwards are only a product of the imagination of spiritual beings created in time, to which no objectivity corresponds. Time has in its beginning only a true progressive movement, and a regressive movement only in the subjective conception of the imagination of created spiritual beings.

By virtue of the infinity of his thought and knowledge, God forever sees the possibility of a world distinct from himself; by virtue of his goodness and love he wishes to realize it, and by virtue of his power he is able to create it. In his boundless infinity, he is sufficient to himself for its creation; the creation itself is no emanation, is no simple self-modification, no self-dismembering or self-dividing, but simply creative production. While the world proceeds from God, he is in nowise diminished by it; and while the world receives a different essence from God, it exists only surrounded and ruled over by the thought and will and by the power of God.

As God is the essence of all primitive forms and laws, the world can only be designed to become a total image of his divine being and life. Since God is the First, and absolute Spirit, his creative thought and will cannot satisfy itself in the production of natural beings, but he ascends in his creation to the production of spiritual beings, without himself leaving the circle of his eternity. As God brings forth spiritual beings, he necessarily brings forth free beings; beings designed to enter into a free, voluntary union with God; beings that can withdraw from, or consent to enter into, a union

with God, — but also, when they have withdrawn, they can return to Him, though not without divine preparation. The created liberty of the spiritual beings conditions the history of the world, which under God's guidance passes through the three stages, or world's epochs: (1) the state of original innocence; (2) the possible, and, as the facts in the history of the human race show, actually happening alienation from, and finally (3) the return to, God. The history of nature, connected internally with the history of spirit on account of its selflessness [lack of subjectivity], does not pass through the same but analagous and corresponding epochs of development, and with the completion of the spiritual world enters into the completion adequate to it, as into the highest stage of spiritualization of which it is capable, without ceasing to be selfless nature. Then for the first time shall God be all in all, then shall the world be completed in God; and though God and world remain eternally distinct, still God shall dwell in the world, and the world shall have entered wholly into God.

SPECULATIVE PHILOSOPHY IN ITALY.

The great political and social changes that have lately commenced in Italy, and are now in full career, are accompanied by philosophical movements of the most important kind. From the large array of evidence that goes to prove this fact, we select a few significant items mostly relating to the philosophical periodical to lay before the readers of the Journal of Speculative Philosophy.

In 1870 was established at Florence a periodical devoted to Speculative Philosophy. It appears once in two months, and its title reads: "*LA FILOSOFIA DELLE SCUOLE ITALIANE; Rivista Bimestrale contenente gli atti della Società promotrice degli studj filosofici e letterarj.* (In Firenze: coi tipi di M. Cellini e C., alla Galileiana.)"

Each number of the five that have come to hand contains, first, an account of the "Acts of the Society for the promotion of the study of Philosophy and Letters." This is followed by a number of contributions on various philosophical and literary subjects; then come critiques on new publications;

then notices relating to philosophy and philosophical literature, &c.

The subjects of the contributions and the names of the contributors in No. 1 are: *Conversazioni filosofiche* (by *Francesco Bonatelli*); *Del sentimento della natura in relazione coll' arte* (by *Aleardo Aleardi*); *Della morale indipendente* (by *Terenzio Mamiani*); *Il Dio di Anassagora e la Filosofia greca prima di Socrate* (by *Luigi Ferri*).

No. 2 contains: *Kant e l' Ontologia* (by *Terenzio Mamiani*); *Etnografia. Cenni sulla lingua e la civiltà giapponese* (by *Antelmo Severini*); *Cenni d' induzione filosofica sul precedente Lavoro (La Compilazione)*; *Appunti di filosofia politica* (by *Terenzio Mamiani*); *Il Parini nella storia del Pensiero italiano* (by *Isidoro del Lungo*); *La morale nella filosofia positiva* (by *Giacomo Barzellotti*).

No. 3: *Convers. fil. [continued]* (by *F. Bonatelli*); *App. di fil. Pol. [continued]* (by *T. Mamiani*); *Filosofia della religione (I Compilatori)*; *Il credo della mia ragione — al Professore Fiorentino* (by *A. Marescotti*); *Lettere sulla religione* (by *G. M. Bertini*).

No. 4 (with which commences the second volume—three numbers constituting a volume) contains: *De nuovo della morale indipendente* (by *T. Mamiani*); *La logica e la filosofia del Conte Terenzio Mamiani* (by *Prof. F. Lavarino*); *Del principio di causa — al Professore Lavarino* (by *T. Mamiani*); *Un Filosofo positivo e un Artista, Dialogo* (by *E. Castagnola*); *Lettere sulla Religione* (by *Avv. G. Checcacci*); *Lettera terza, Il presente della Chiesa* (by *G. M. Bertini*).

No. 5: *A Terenzio Mamiani, presidente della Società promotrice degli studi filosofici e letterari* (by *Baldassarre Labanca*); *Della nozione dell' ente, Considerazioni sopra le due lettere del Sig. Prof. Fontana e del Sig. Prof. Labanca* (by *T. Mamiani*); *Convers. fil. [3d series]* (by *F. Bonatelli*); *La morale nella filosofia positiva: La teorica del Fine, il Bene morale, l' Utile* (by *G. Barzellotti*); *Polemica contro il materialismo* (by *L. Ferri*); *App. di fil. pol. [3d series]* *Principio d' innovazione e conservazione* (by *T. Mamiani*); *Della creazione secondo Gioberti, Lettera a T. Mamiani* (by *Giacinto Fontana*); *Risposta di alla lettera antecedente* (by *T. Mamiani*); *Ancora de la morale indipendente: da un lettera d' illustre Prof. Torinese*; *Risposta di T. Mamiani*.

The society above named, under the presidency of Count Terenzio Mamiani, seems to form the centre from which a wide-reaching activity extends itself. From the book notices in particular one may see the strong effect of German ideas, and readily trace the influence of Professor Vera, who labors in the University of Naples. These notices relate to Cartesianism; Life of Christ; Philosophical literature; Vico's unedited orations; Spiritualism and Materialism; Sextus Empiricus; Schleicher's Comparative Grammar; Platonism and Christianity; Vera's Introduction to the Philosophy of History; Sophisms and good sense; Theory of Judgment; Bacon's classification of human learning; &c. &c. In the first number the constitution of the society is given, which deserves to be translated and published at length in this Journal. Philosophical themes—classified into metaphysical theories, moral philosophy, philosophy of history, and history of philosophy—are given out for discussion; also literary themes, six in number relating to the encouragement of a national Italian literature.

Besides these five numbers of the Philosophical Journal, we have received three interesting publications from the pen of Professor Giacomo Barzellotti: (1) *Sopra alcuni Temi di letteratura e di filosofia proposti della Società promotrice degli studi filosofici e letterarii*; (2) *Delle dottrine filosofiche nei libri di Cicerone tesi di lauri*; (3) *Dell' Animo di Michelangelo Buonarroti, in relazione all' ingegno di lui, alla storia delle arti e de' suoi tempi*.

We have alluded to Vera's influence in the movement that has its centre at Florence. It seems that, in 1860, Count Mamiani, now the president of the Philosophical Society, invited Professor Vera—then in England, where he had been for nearly ten years—to return to Italy as Professor of Philosophy in the Scientific and Literary Academy at Milan. After a year's residence at Milan, Professor Vera repaired to Naples and became Professor of Philosophy at the University there. He has lectured much on Hegel and made many disciples, foremost of whom stands Raffaele Mariano. His numerous works illustrative of Hegel, and written with surprising clearness of style in French, English and Italian, deserve an extended article exclusively devoted to them.

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No. 2.

INTRODUCTION TO THE MEDITATIONS OF DESCARTES.

Translated from the French by WM. R. WALKER.

[To the readers of Descartes' Meditations, a translation of which appeared in vol. iv. of the Journal, the following introduction and epitome will prove interesting.—EDITOR.]

To the Deans and Doctors of the Sacred Faculty of Theology of Paris.

GENTLEMEN:—The reason which leads me to present to you this work is so just (and, when you know its design, I am assured that you will have also as just a reason for taking it under your protection), that I think I cannot do better, in order in some sort to recommend it to you, than to tell you in a few words what my purpose is. I have always considered that the two questions of God and of the Soul were preeminently those which ought rather to be demonstrated by philosophical than by theological reasons; for although it suffices us who are of the faith to believe by faith that there is a God, and that the human soul does not die with the body, it certainly does not seem possible ever to persuade infidels of the truth of any religion, or scarcely even of any moral virtue, if we do not first prove to them these two things by natural reason; and inasmuch as there are often offered in this life greater rewards for vices than for virtues, few persons would prefer the just to the useful were they not restrained either by the fear of God or by the expectation of another life: and although it be absolutely true that it is necessary to believe that there is a God because it is so taught in the Holy

Scriptures, and on the other hand that it is necessary to believe the Holy Scriptures because they come from God (the reason being that as faith is a gift of God, he himself who gives grace to enable us to believe other things can also enable us to believe that he exists), yet we could not propose that to infidels, who would imagine that we had thereby committed the fault which logicians call a circle.

And, moreover, I have observed that you, gentlemen, with all the theologians, have asserted not only that the existence of God can be proved by natural reason, but also that the knowledge of him is much more clear than that which we have of many created things, and indeed that it is so simple that those who have it not are guilty; as appears by those words of Wisdom, chap. xiii., where it is said that "their ignorance is unpardonable: for if their minds have penetrated so far into the knowledge of the things of the world, how did they not sooner find out the Lord thereof?"—and in Romans, chap. i., it is said that they are "inexcusable," and again in the same place, by these words, "that which is known of God is manifest in them," it would seem we are informed that all which may be known of God can be shown by reasons which need not be drawn elsewhere than from ourselves and from the simple consideration of the nature of our mind. For this reason I have believed that it will not be against the duty of a philosopher to show here how and by what means we can, without going beyond ourselves, know God more easily and more certainly than we know the things of the world.

And as regards the soul, although many have believed that it is not easy to know its nature, and some have even ventured to say that human reason convinces us that it dies with the body, and that it is only faith which teaches us the contrary; yet, since the Lateran Council, held under Leo X., Sess. 8, condemns these, and expressly enjoins on Christian philosophers to answer their arguments, and to employ all the powers of their mind to make the truth known, I have ventured on the undertaking. Moreover, knowing that the principal reason which makes many impious persons unwilling to believe that there is a God, and that the human soul is distinct from the body, is, as they say, that no one has hith-

erto been able to demonstrate these two things; and though I am not of their opinion, but on the contrary hold that the majority of the reasons brought by so many great persons concerning these questions are, well understood, so many demonstrations, and that it is almost impossible to discover new ones; hence I believe one can do nothing more useful in philosophy than at once to investigate with care the best things, and to place them in so clear and exact an order that it will henceforward be unquestionable to every one that they are veritable demonstrations. And, in a word, since many persons have desired it of me who know that I have cultivated a certain method for resolving all kinds of difficulties in the sciences, a method which indeed is not new (there being nothing more ancient than truth), but which they know I have used to good advantage on other occasions, I have thought it my duty also to make proof of it in a matter so important.

Now I have labored to the best of my ability to include in this treatise all that I have been able to discover by means of that method. Not that I have here collected all the various reasons which could be alleged by way of proof on so great a subject: for I have never believed that to be necessary, unless in cases where there is nothing certain; but have only treated of the first and principal ones in such a manner that I venture to offer them as very evident and certain demonstrations. And I will say, moreover, that they are such, that I do not think there is any way by which the human mind can ever discover better; for the importance of the subject, and the glory of God to which all this has reference, constrain me to speak here rather more freely of myself than has been my custom. Nevertheless, whatever certainty and evidence I find in my reasons, I cannot persuade myself that every one is capable of understanding them. But, just as in geometry there are many things which have been bequeathed to us by Archimedes, by Appollonius, by Pappus, and by many others, which are received by every one as very certain and evident because they contain nothing which, considered separately, is not very easy to be known, and because everywhere the things which follow have an exact connection with and dependence upon those which precede; yet, because they are somewhat long and require an undivided mind, they are

comprehended and understood by only a very few: in the same way, while I consider those which I here make use of, to equal or even surpass in certainty and evidence the demonstrations of geometry, I nevertheless apprehend that by many they cannot be sufficiently understood, partly because they also are somewhat long and dependent the one upon the other, and chiefly because they require a mind entirely free from all prejudices and which can easily detach itself from commerce with the senses. And, truth to say, there are not in the world so many fit for the speculations of metaphysics as for those of geometry. And, moreover, there is yet this difference that, in geometry, each being aware of the opinion that nothing is there advanced which has not with certainty been demonstrated,—those who are not entirely versed oftener transgress in approving of false demonstrations, in order to make believe they understand them, than in refuting the true. It is not thus in philosophy, where, every one believing that all is there problematical, few give themselves up to the investigation of truth; and very many, wishing to acquire the reputation of bold spirits, strive after nothing else than arrogantly to combat the most apparent truths.

This, gentlemen, is why, whatever force my reasons may have, I do not hope, since they belong to philosophy, that they will produce a great effect on men's minds, if you do not take them under your protection. But the esteem in which your body is held by the whole world being so great, and the name of the Sorbonne being of such authority, that not only in that which concerns the faith has there ever, after the sacred Councils, been so much deference paid to the judgment of any other body; but also, in what concerns human philosophy, every one believing that it is not possible to find elsewhere more solidity and knowledge, or more prudence and integrity in giving judgment, I do not doubt, if you deign to take so much care of this writing as to be willing first to correct it (for, having knowledge not only of my infirmity, but also of my ignorance, I would not dare to assert that there are no errors), then to add to it the things which are wanting, to finish those which are not perfect, and to take the trouble of giving a fuller explanation to those parts which may have need of it, or at least to inform me of these in order that I may

make the explanation; and, in short, after the reasons by which I prove that there is a God and that the human soul is different from the body, shall have been brought to that point of clearness and evidence to which I am assured they may be conducted, that they will be held as very exact demonstrations, if you deign to stamp them with your approbation and give public testimony to their truth and certainty,—I do not doubt, I say, that after that, all the errors and false opinions which have ever existed concerning these two questions will soon be effaced from the minds of men. For the truth will so work that all the learned and the men of understanding will subscribe to your judgment and authority; the atheists, who are generally more arrogant than learned and judicious, will be robbed of their spirit of contradiction, or perhaps will themselves defend the reasons which they will find received by all persons of understanding as demonstrations, lest they should appear not to have intellect; and, finally, all others will readily yield to so many proofs, and there will not be any person who will venture to doubt of the existence of God, and of the real and veritable distinction between the human soul and the body.

It is, however, for you to judge of the fruit which will be produced by this confidence, if it were once well established,—you who see the disorders which doubt produces; but I should not here act with a good grace were I further to recommend the cause of God and of religion, of which you have always been the firmest supports.

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P R E F A C E.

I have already touched on the two questions of God and of the human soul in the Discourse, written in French, which appeared in the year 1637, concerning the method for the proper conduct of reason and for the search of truth in the sciences; not with the design of then treating them fundamentally, but only by the way, in order to discover, by the judgment passed upon them, in what manner I should afterwards treat them: for to me they have always seemed to be of such importance that I judged it fitting to speak of them oftener than once; and the course which I take in order to explain them is so

little beaten and so far removed from the ordinary route, that I have not considered it would be profitable to present it in French, and in a discourse which could be read by all, lest weak minds should suppose that it is permitted to them to attempt this road.

But, having in the Discourse on Method begged all who should find in my writings anything worthy of censure, to do me the favor of apprising me of it, there has been no objection of any note made, save to two things on which I had written concerning these two questions, to which I shall here respond in a few words before undertaking their more precise explanation.

The first objection is, that while the human mind reflecting on itself does not know itself as anything but a thing that thinks, it does not thence follow that its nature or its essence is only to think,—in such a manner that the word *only* excludes all other things which one could perhaps speak of as belonging to the nature of the soul.

To which objection I answer that it was not my intention in that place to exclude them so far as concerns the truth of the thing (of which I was not then treating), but only as concerns the order of my thought; my meaning being that I was not acquainted with anything which I knew to belong to my essence, except that I was a thing that thinks, or a thing which has in it the faculty of thinking. But I shall afterwards show how, that if I know nothing else to belong to my essence, it thence follows that nothing else really does belong to it.

The second objection is, that if I have in me the idea of a thing more perfect than myself, it does not thence follow that this idea is more perfect than I, and still less that what is represented by this idea exists.

But I answer that in this word *idea* there is here a double meaning: for it may either be taken in a material sense for an operation of my understanding, and in this sense it could not be said that it is more perfect than myself; or it may be taken objectively for the thing which is represented by this operation, which, although it is not supposed to exist out of my understanding, can nevertheless be more perfect than I by reason of its essence. But in the course of this treatise I shall show more fully how, from this alone, that if I have in

me the idea of a thing more perfect than I, it thence follows that this thing actually exists.

Moreover, I have also seen two other sufficiently copious writings on this matter, but these do not so much attack my reasons as my conclusions, and that by arguments drawn from the common-places of atheists. But, because arguments of that kind can make no impression on the minds of those who understand my reasons aright, and because the judgments of many are so weak and so little reasonable that they are oftener persuaded by the first opinions they may have had of a thing, however false and removed from reason these may be, than by a solid and real but subsequently brought refutation of their opinions, I do not wish in this place to answer them, lest I should be obliged first to repeat them.

I shall only say in general that all that the atheists say in combatting the existence of God depends always either on what they imagine to be in God of human affections, or on their attributing to our minds so much power and wisdom that we have verily the presumption of wishing to determine and comprehend what God can and ought to do; so that all that they say need give us no trouble, provided only we remember that we must consider our minds as things finite and limited, and God as a being infinite and incomprehensible.

Now, after having sufficiently recognized the sentiments of men, I again undertake to treat of God and of the human soul, and at once to lay the foundations of the first philosophy, but without expecting any praise from the vulgar, or hoping that my book will be read by many. On the contrary, I shall never counsel any to read it, except those who wish to meditate with me seriously, and who can detach their minds from the commerce of the senses, and deliver themselves entirely from prejudices of every kind; those persons I know to be but very few in number. But for those who, without caring much for the order and the connection of my reasons, will amuse themselves in criticising the separate parts, as many do,—those, I say, will not find great profit in the reading of this treatise; and though they may perhaps find in many places occasion to cavil, they will have great difficulty in making any weighty objection, or any that would be worthy of answer.

And though I do not promise to others to satisfy them at first, and do not esteem myself so highly as to believe that I can foresee what will be each one's difficulty, I shall first reveal in these Meditations the very thoughts that led me to a certain and evident knowledge of the truth, in order to see whether, by the same reasons which persuaded me, I shall be able to persuade others; and thereafter I shall answer the objections which have been made to me by persons of understanding and erudition to whom I sent my Meditations for the purpose of being examined before they were sent to the press; for they have made so many and so different objections, that I dare promise myself that it will be difficult for another to bring forward anything important which has not been already touched upon.

This is the reason for which I beg those who desire to read these Meditations not to form any judgment until they shall first have taken the pains to read all the objections and the answers which I have made to them.

EPITOME OF THE SIX MEDITATIONS.

In the first, I bring forward the reasons by which we may doubt generally of all things, and particularly of material things, at least as long as we have no other foundations in the sciences than those we have hitherto had. But although the utility of a doubt so general may not at first be apparent, it is, however, very great in this respect, that it frees us from all manner of prejudices, and prepares for us a very easy way of accustoming our minds to detach themselves from the senses; and in this, that it makes it impossible for us ever to doubt of the things which we shall thereafter discover to be true.

In the second, the mind which, using its proper liberty, supposes that nothing exists, concerning whose existence it has the least doubt, discovers that it is nevertheless absolutely impossible that it does not itself exist. This also is very useful, inasmuch as by this means it easily makes distinction between the things which pertain to it—that is to say, to the intellectual nature—and the things which pertain to the body.

But, because it may happen that some will expect of me in this place reasons to prove the immortality of the soul, I deem it right here to warn them that having aimed at stating nothing in all this treatise of which I shall not have very exact demonstration, I am thus obliged to follow an order similar to that made use of by geometricians, which is to first advance all the things on which the proposition sought for depends, before drawing any conclusion.

Now, the first and principal thing requisite in order rightly to know the immortality of the soul is to form a clear and precise conception of it entirely distinct from all the conceptions we may have of the body; which has in this place been done. It is besides requisite to know that all things which we clearly and distinctly conceive are true after the fashion in which we conceive them; this could not be proved before the fourth Meditation. Moreover, it is necessary to have a distinct conception of the corporeal nature, which conception is given partly in the second, and partly in the fifth and sixth Meditations. And, in fine, we must conclude from all this that the things which we clearly and distinctly conceive to be diverse substances, such as the mind and the body, are in fact substances really distinct from one another, and such is the conclusion drawn in the sixth Meditation; this is again confirmed, in the same Meditation, by the fact that we do not conceive any body but as divisible, whereas the mind or the soul of man cannot be conceived but as indivisible; for, in fact, we could not conceive the half of any soul, as we can of the smallest of all bodies; and hence we discover that their natures are not only diverse, but in a fashion contrary. But I have not further treated of this matter in this work, partly because that will show with sufficient clearness that from the corruption of the body the death of the soul does not ensue, thus giving to men the hope of a second life after death, and partly because the premises from which we conclude the immortality of the soul depend on the explanation of all physics: in the first place, to know that generally all substances—that is to say, all things which cannot exist without being created by God—are in their nature incorruptible, and that they can never cease to be, unless God himself, refusing his concurrence, reduce them to nothing; and then, to observe

that the body taken in general is a substance, and cannot therefore perish; but that the human body, inasmuch as it differs from other bodies, is but composed of a certain configuration of members and of other similar accidents, whilst the human soul is not thus composed of any accidents, but is a pure substance. For although all its accidents are changed—for example, although it conceives of certain things, wills others, and feels others, etc.—the soul nevertheless does not become another; whereas the human body becomes another thing, from this alone that the figure of some of its parts becomes changed: whence it follows that the human body can very easily perish, but that the mind or soul of man (I do not distinguish between the two) is immortal in its nature.

In the third Meditation, I have, it seems to me, explained at sufficient length the principal argument of which I make use in order to prove the existence of God. But nevertheless, because I did not wish to make use in this place of any comparisons drawn from corporeal things, in order to withdraw as far as I could the mind of the reader from the usage and commerce of the senses, there may perhaps remain many obscurities here (which, as I hope, will be entirely cleared up in the answers I have given to the objections that have since been proposed to me), for instance, among others, this one: how the idea of a Being supremely perfect, which we find within us, contains so much objective reality—that is to say, participates by representation in so many degrees of being and of perfection, that it must come from a supremely perfect cause. This I have made clear in these answers by the comparison of a very ingenious and artificial machine, the idea of which is found in the mind of some artisan; for, as the objective product of this idea must have some cause, namely, either the knowledge of this artisan or of that of some one from whom he has received this idea, so also is it impossible that the idea of God, which is in us, has not God himself for its cause.

In the fourth, it is proved that all things which we conceive very clearly and very distinctly are every one true; and at the same time is explained in what consists the nature of error or falsity, which must necessarily be known, as much

to confirm the truths preceding as for the better understanding of those which follow. But there is yet this to remark, that I do not at all there treat of sin—that is to say, of error which is committed in the pursuit of good and evil—but only of that which occurs in the judgment and discernment of the true and the false; and that I am not to be there understood as speaking of the things which belong to the faith or to the conduct of life, but only of those which regard speculative truths, and which can be known only by the aid of the natural light alone.

In the fifth Meditation, besides corporeal nature, taken in general, being explained, the existence of God is also there demonstrated by a new reason, in which however some difficulties may be also encountered, but the solution will appear in the answers to the objections which have been made; and, in addition, I show in what manner it is true that the certainty even of geometrical demonstrations depends on the knowledge of God.

Finally, in the sixth, I distinguish between the action of the understanding and that of the imagination; the marks of this distinction are there described; I show that the soul of man is really distinct from the body, and yet that the two are so closely conjoined and united that they seem to compose but one thing. All the errors which proceed from the senses are there exposed, with the means of avoiding them; and, in a word, I bring forward all the reasons by which we can conclude of the existence of material things; not that I judge them of much use in proving what they prove, namely, that there is a world, that men have bodies, and other similar things, which have never been held as doubtful by any man of good sense; but because in considering them closely one comes to know that they are not so well established or so evident as those which lead us to the knowledge of God and of our soul; inasmuch as these are the most certain and evident which can come to the knowledge of the human mind, and this is all I have had the design of proving in these six Meditations, and on this account I have here omitted many other questions of which I have incidentally spoken in this treatise.

KANT'S ETHICS.

By JAMES EDMUNDS.

III.—*Ethico-active Reason.*

§ 25. Man (*homo phenomenon*) knows himself to be possessed of a faculty (wherewith he knows) which does not seem to belong to the world of nature (*mundus sensibilis*). This he cogitates to be a FACULTY, knowing himself obliged to its use and exercise. But since no supersensible faculty could possibly belong to a solely sensuous existence (thing), he thinks this faculty as (quasi) belonging to a supersensible man (person, *homo noumenon*), an intelligent. This boldest dictum he formulates in the apodictic supersensible-axiom of DES CARTES, “*cogito, ergo sum.*”

§ 26. That of which this unquestionable deliverance of consciousness declares the being, is neither body nor soul (for a demonstrated world of souls can be no other than a sensible world). It is the philosophic *EGO*, of which we predicate intelligible existence. We declare him to be an intelligent, the possessor of the faculty reason. That is all.

§ 27. Speaking after the analogy of the world (for in truth an intelligent, having no external relations, can form no part of a congeries, much less of a world, and therefore cannot act), the *EGO* is said to belong to a world (*mundus intelligibilis*, a convenient philosophic fiction) and to be in that world an agent. His rule is the law of reason, which immediately determines the will, no foreign determinator (*mobile*) being possible. But no sooner does he enter into the phenomenal world than he finds himself in his phenomenal (external) character subjected to the law of that world, mechanical necessity, which thrusts itself upon his will and (if not resisted) violently determines it.

§ 28. Now if he (*homo phenomenon*) were absolutely subjected to natural necessity, it were absurd to speak of his will as free, since it must be always externally determined. If again he, being in the natural world, were absolutely subjected to the law of reason (an intelligent in the world but not of it, *homo noumenon* among phenomena,—an absurd supposition), it were equally absurd (at least superfluous) to

speak of his will as free; since, though independent of natural determination, it is by hypothesis subjected to self and admits but one determination, ethic necessity. But in actual fact and event he knows himself independent on natural necessity, since he may enforce self-determination in the very face of natural necessity; and (as it were) equally independent on his own reason, since he may (if he so will) degrade himself to the purely animal level and resolutely deny to reason her rightful command: in other words, he recognizes in himself that curious compound, free humanity, which is of the very essence of two worlds yet compelled in neither, which may elevate itself at will toward the higher or degrade itself in the lower, which builds its own heaven or digs its own hell.

§ 29. But because the rational agent is free to permit the determination of his will by either the mechanic necessity which appertains to his phenomenal character or the moral necessity which is the law of his intelligible character, it must not be concluded that he is independent of both worlds (dependent on neither). Any such definition of freedom must be excluded from philosophic terminology, for the reason that the conception possesses no value whatever (not to insist that it is not true, inasmuch as it represents the agent neither as intelligent nor as phenomenon nor as a compound of the two, but as some incogitable nondescript).

§ 30. The philosophic conception of freedom is simply independence on foreign determinators. And since ethico-rational necessity is (so far as can be concluded upon rational ground) no other than proper (absolutely internal) determination, the conception freedom of will is equivalent to subjection to the moral law, which last is but self law, reason cogitated as efficient in form of law and acting according to the representation of law. He who represents freedom, whether in the schools or in the state, as lawlessness, is laughed at.

§ 31. Speculative reason is reason (in her character of ratio phenomenon, the only character in which she views herself to herself objected, and so knows herself) beholding herself, and endeavoring by the aid of her indubitable fact consciousness to retrace the processes of the workings of her thought, thereby discovering for the behoof of her finite phenomenal self her veritable and absolute ethical self.

§ 32. Practical reason is reason (in her character of FACULTY, ratio noumenon, the only character in which she can cogitate herself as possessed of energy) phenomenizing herself, obtruding her rule into the sensible world and therein enforcing its behest, most marvellously transmuting the beautiful but uncurrent metal of intellect into the glory of golden fact. Art beyond alchemy! Wonderful of incarnations, incarnate reason! He who dare enter into her holiest of holies, finds there her fires never dim.

§ 33. Ethics is the science of right and wrong. The notion of an act in general (of which it is not considered whether it is right or wrong) is divided according to a rule of reason into that which is right and that which is wrong. Ethics is therefore the science of the law of reason, i. e. (since we have no knowledge of any law not of reason) of law in general; and ethico-active reason is reason acting according to law, i. e. her own law.

§ 34. Here the careless reader will stumble at once upon the apparent antinomy of the law (freedom and nature), which does not yet concern us. For the groundwork of all science, we go back of the sensible into the intelligible world. Now if of any idea we do not make complete abstraction, we are liable in deductions to the error of undistributed middle, a logical snare set at every turn for philosophy. We have previously (§ 14) called attention to the fact that an apriori deduction of morality is habitually demanded by those who have never strictly attempted to divest morality of a completely aposteriori character; and the very difficulty upon which we have paused is due to the remarkable circumstance that we deceive ourselves, persuading ourselves that we have made abstraction of reason from the rational agent, the while nevertheless unconsciously cogitating it as a THING which exists SOMEWHERE and SOMEWHEN. (The ground of abstraction, which underlies the simplest generalization as well as the most ultimate apodict, is deep hid in the very nature of the faculty. We cannot ask why reason is reason, but only what reason is.)

§ 35. The error to which we point is far more extensive and of more serious consequence than may hastily appear. Indeed it is the occasion of the fact to which Mr. KANT refers

(in the transcendental dialectic, commenting upon ARISTOTLE) in remarking that "it is nothing unusual, in common conversation as well as in written works, by comparing the thoughts which an author has delivered upon a subject, to understand him better than he understood himself; insomuch as he may not have sufficiently determined his conception, and thus have sometimes spoken, nay even thought, in opposition to his own opinions." But the mistake occurs often where the conception has been sufficiently determined, and nevertheless the mind is suffered by a sort of carelessness to disregard the determination. And this we take to be the origin and explanation of most of the contradictions into which Mr. KANT has himself apparently fallen. Since the complete definition of the terminology is, especially in such argument as we have approached, of vital importance, it may be well to suggest a few specifications:

§ 36. We understand by noumenon a substance plus the totality of its possible (the totality of the possibility of its) accidents or manifestations: the totality of its real accidents, existent as given through sensibility, we call phenomenon. We think to the phenomenon the same substance as to the noumenon; but (owing to the subjective nature of our representations) we cannot know what (if anything) in the phenomenon, except the substance, belongs also to the noumenon. Noumenon as "an object of a non-sensuous intuition," is an impossibility; for we cannot conceive of a noumenon which might not (in some or other of its modes) become phenomenon, if sensibility were so modified as to receive (intuite) it. "Non-sensuous intuition" is a contradiction in terms; and whatever intuition we think, other than that which we possess, is not non-sensuous, but differently sensuous. The noumenon is therefore no possible object; and the conception of the homo noumenon is that of a mere schema.

§ 37. It will not be understood that we are asserting substance of the EGO, in which we cognize nothing. The permanent in time (substantia phenomenon, matter) is nothing more than a schema of substance, through which we reach as it were to grasp very substance. That complex of mere relations which we call matter, is an attempt to cogitate substance as an entity in the real world and therefore as neces-

sarily possessed of internal determinations in relation to itself (of extensive relations).

§ 38. So that complex of internal determinations which we call *EGO*, is an attempt to cogitate man (abstract from the real world) as possessed of relations in the intelligible world. But since the determination of the *homo noumenon* is absolutely internal, and not relatively (in time as opposed to space, which internal is truly external), the relations are no more than a bold figure; and the complex is an empty ethical schema, no more real than a sensible schema.

§ 39. The real is that which exists in sensation. Now nothing can be known experimentally to exist, except it be given in sensation: hence reality is taken for existence, and unreality logically becomes non-existence; while in truth unreality is also unrealized ideality. Reality in time is merely the schema of existence; and to declare even a thing unreal is not to deny its existence.

§ 40. Abstract from time, substance is — substance! Mr. KANT's attempt to define it as that which must be cogitated as subject and never as predicate,* will not bear scrutiny; for we have already begun by predicating it of its accidents. This confusion may have arisen from not clearly distinguishing subject logical (as opposed to predicate) from subject actual (as opposed to object); but, although substance cannot be cogitated as object, to define it as subject in nowise increases the clearness of the conception, but on the contrary is liable to confuse it by leading to its use as undistributed middle.

§ 41. A faculty acts, and must be able to act, else it were not faculty: in other words, to act is involved in the very notion of faculty, and is a mere deduction. (Not that a faculty must act continuously.)

The action of a faculty is as to its mode more properly termed function. Thus: will is a function of reason; but will is itself cogitated as a faculty when it is viewed as reason acting rather than as an act of reason.

These punctual distinctions are essential to any specula-

* See pages 79, 92, 113, 174, 181, 183, 193, 226, 241, 243, 260. Melklejohn's Kritik, Bohn's edition.

tion. For example, synthesis of apprehension in nowise differs from the transcendental synthesis of imagination, nor this from the synthetic unity of apperception upon which all synthesis is founded. But in synthesis of apprehension we cogitate only so much of the activity of consciousness as is indispensably necessary to give unity to the empirical intuition; and we not so much view the result with reference to its unity of the manifold as that we seize upon its manifold in unity. Different names for different phases of the same act draw the attention more or less to the action itself, as the argument may require.

§ 42. Particular faculties of the mind are merely phases of the activity of the *EGO*, distinguished for purposes of convenient reference. Now when Mr. KANT explains (in the deduction of the categories) that imagination belongs partly to the sensibility, he seems to us merely fall into a confusion of terms. Mr. TUPPER was not far from right when he said that "Imagination is not sense, neither is fancy reflection." Imagination and sensibility are both faculties of the *EGO*, and both necessary the one to the other (for cognitive purposes); but the one no more belongs to the other than the other to the one. And Mr. KANT's argument to prove that the unity of formal intuition *apriori* belongs to space and time and not to the conception of the understanding, is nothing but the logical result of confusion and possesses no value.

§ 43. Reason is the sole faculty which an intelligent is cogitated to possess. For convenience, her various aspects or energies are regarded as separate faculties, but faculties subsumed under reason and derived or abstracted out of reason. These are by no means to be looked upon as extensive determinations or limitations, or as distinct, separable, co-ordinate, or subjected faculties; but solely as the one faculty reason taken in a limited view, with reference to her particular use, theoretical or practical. In each energy reason herself is present with her whole force and weight. It cannot be urged that an inferior faculty (e.g. receptivity) may exist without reason; for that fact does not concern the argument, which is not addressed to beasts.

§ 44. As a faculty of perception, reason is termed intuition.

As a faculty of apperception, reason is termed consciousness.

As a faculty of cognition ("for the production of unity of phenomena by virtue of rules"), reason is termed understanding.

As a faculty of subsumption, reason is termed judgment. (E.g., that an object stands under a conception of the understanding, is declared by judgment.)

As a faculty of moral judgment, reason is termed conscience. (Declaring that a given act stands under a rule of right and wrong.)

As a faculty of action (in the sensible world), reason is termed will.

As a faculty of appetite, reason is termed desire (not wish).

As a faculty of desire viewed as habitual, reason is termed appetite.

As the faculty appetite plus the consciousness of her own ability by her own act to produce the object sought, reason is termed choice.

As the faculty of appetite when the said consciousness is not present, reason is termed wish.

§ 45. Surely, the reader may say, here is embarrassment of riches! Riches are wholly relative; and not much may embarrass him who earns but a farthing a day. When the inward ground of the determination of the appetite (consequently when the option) depends upon the reason of the subject himself, the faculty reason is termed will. Choice is therefore appetite in respect to the action; will is appetite in respect of the ground of the action; and wish is appetite inactive. These terms are all needed. And appetite itself in a narrower sense may be taken to signify will or choice when the ground of the determination of the choice does not lie within the reason of the subject himself. For man, as an intelligent living in a sensible world, whose reason is a faculty of receptivity, finds by nature his choice affected by foreign stimuli to so great an extent that his reason continually recalls him to herself and incessantly reconquers her just domain only by force of endless struggle.

§ 46. That a particular is included in a general proposi-

tion, is declared by reason. In this aspect, reason is "the faculty of principles," of "synthetical cognitions from conceptions," "for the production of unity of rules under principles." Like as for convenience the whole activity of reason is figured to be divided and subdivided into various faculties, so the term itself REASON is reserved for this her especial and most supreme energy, which is manifested in treating of naked idea, totally dissevered from even the purest forms of sense. Here reason revels in a new and unknown world, so completely her own that if she lose firm hold on herself she can find no more any ground whereon to rest. Here she exalts her throne and reigns unopposed, herein having no longer to fight the world, the flesh, and the devilish oligarchy of passions, in enforcement of her behests. But this her high place she may not dare to abdicate, not for one instant, in favor of any foreign potentate whatever; for in that one instant she will have resigned not alone her ideal sovereignty, but no less her real title to obedience. He who meanly confesses that his own reason is not his very own, what is he?

§ 47. Although neither the existence nor the possibility of ethico-active reason can be known completely apriori, it yet appears upon the most abstract consideration that to cogitate reason solely as theoretical (speculative) and as possessing no practical power, is absurd; and in view of the rational agent it must also be held self-destructive. If reason is a supreme ruler, she must possess a title to obedience, a power to enforce her commands in the phenomenal world: i. e. she must be a faculty. Else might the subject, while theoretically and in general acknowledging obedience to his sovereign, practically and in every individual fact and instance rebel, impelled thereto by the mechanic necessity of his phenomenal character. And while it is true that the causality of reason in the sensible world cannot be known apriori, it may be known apriori that if the possessor of reason is to reside within the world of nature and to be clothed with a phenomenal character, and if he is to take with him thither his supreme faculty reason, that faculty also must possess a real character, a will. Else were she left behind in the world whence he comes, and were no real faculty. But that she is a real faculty may be known by her phenomenal energy of

understanding, through which alone is given her supersensible ideality. And as he who assails the hypothetical real will can scarcely do so except by a general denial of the real character of reason, he may well be left to extricate himself from an argument which turns upon and devours itself and the very ground upon which it stands.

§ 48. Hence it is proper that an apriori deduction of morality from pure reason should begin hypothetically (§§ 12, 17) by assuming the practical power of spontaneous action which is discovered by reason in experience and immediately by her reclaimed and asserted apodictically. No argument which may seem to deny the possibility of this postulated freedom can possibly be acceptable to reason, which **MUST** (§ 12) thereupon recommence and indefatigably continue her investigation till she has established her idea satisfactorily.

§ 49. As an exhibited science, practical reason is no other than speculative reason (§ 32). Now science, always speculative, does not propound theories to account for possibilities: but from the very first establishes its postulates in order to rest thereon ascertained (aposteriori) facts. It is difficult to apprehend anything more ridiculous than a natural philosopher engaged in the deduction of imaginary facts. The fact must be at least apparent (quasi), before the commonest reason will undertake an investigation whether it is real and well grounded.

How then shall reason in the practical field (wherein she is no less one and the same reason) be required to deduce one knows not what, first casting aside her own apodictic deliverances? And with what face shall he who having first conditionally accepted a natural fact calls then upon reason to account for it, demand that the moralist shall first reject the experienced fact freedom and shall thereafter categorically deduce — what shall we say?

§ 50. Descending from the exalted realm of reason into the real world, we find the fact morality, a fact which ever-active conscious reason of all grades and in all times persistently claims as her very own. And since she cannot refuse to maintain and establish her very own, she boldly postulates her hypothesis, freedom of will, and deduces thence morality.

To him who objects that the postulated causality conflicts with the necessity of nature, she proves by the critical analysis of her own functions and faculties that no real conflict exists; and him who flatly denies both her (aposteriori) fact and her hypothetic spontaneity (apriori act), she meets upon equal ground and strips of every, even the simplest, principle of understanding.

§ 51. The reconciliation of freedom and necessity is the highest aim of the noblest and purest of philosophers. The argument ought to be familiar to all disciples of IMMANUEL KANT. To reproduce it has not herein been our purpose, but to sketch cursorily the reach and extent of the faculty reason (§ 13). From this point, taking our stand upon the firm fact morality, and challenging any other deduction whatever than that from the spontaneous activity of reason, and resting our claim to a demonstrated science wholly upon rational consciousness of the two states of action ideal and sensible (in other words, upon the conscience of humanity), we concern ourselves merely with so much of speculative reason (commonly termed practical reason) as, knowing nothing of any object of intuition, has nothing to investigate but the power of her own will to make objects real, and that solely in respect of its form and principle. For him who is habituated to abstract thought, it is an easy task to make an apriori deduction of the law of reason, and thence of all laws and morals (i. e. of particular duties). For this purpose, the possibility of practical principles (the possibility of ethico-active reason: §§ 33, 48) must be assumed.

§ 52. It is because of the absolute impossibility of establishing completely apriori the reality of the law's action (§§ 12, 22, 23, 47), that students of philosophy have sometimes apparently abandoned morality as (*qualibet, non quasi*) based upon reason. But reason does not desert her subjects and possessors, though exorcised by the authority of a thousand ages. From the beginning even until now, her humblest agents have been by her assured of the great fact of her vitality in sense, and of the greater fact of the complete harmony of that vitality with the mechanical course of external nature; and this her assurance is so perfect and so apodictic that he who assumes to doubt it thereby falls into an inevitable an-

tinomy with his own faith and conduct (conflict of principles and maxims), patent to all who choose to note.

§ 53. The practical problem which we have to solve is not emancipation from, but control of, nature. In other words, the duty of man is to maintain the supremacy of reason, not to uproot the necessity of nature.

Out of this struggle comes ethic growth, the true virile strength, the highest virtue. And since a mere man cannot arrogantly assume to state the ends of human existence, yet is impelled by the necessity of his rational nature and method to project some end toward which he must aim, he finds the highest satisfaction in declaring as end (for him, so far as he can know) virtue, which consists solely in the ceaseless endeavor to obey the law of reason.

CONSIDERATIONS ON THE DOCTRINE OF A UNIVERSAL SPIRIT.

Written in 1702, and translated from the French of G. W. LEIBNITZ, by A. E. KROEGER.

[The following essay will no doubt be welcomed by all who have found it difficult to fully understand Leibnitz's *Monadology*, published in No. 3, vol. i., of this Journal. In the present essay Leibnitz touches and states with the utmost clearness two of the three great principles of his philosophy: the doctrine of Monads—here called particular souls—and the doctrine of a Preestablished Harmony. It will be well to read also, in connection with this article, Leibnitz on the "Active Force of the Body, the Soul, and the Souls of Animals," published in No. 1, vol. ii., of this Journal.—EDITOR.]

Many ingenious persons have believed and believe yet to-day that there is only one spirit, which is universal and which animates all the universe and all of its parts, each according to its structure and according to the organs which it encounters, just as the same breath of air causes the various pipes of an organ to sound differently; and that thus when an animal has its organs in good order this spirit creates therein the effect of a particular soul, whereas when these organs become corrupt that particular soul turns into nothing, or, so to speak, returns into the ocean of the universal spirit.

Aristotle has appeared to many as having held a somewhat similar opinion, which was renewed by the celebrated Arabian philosopher Averroes. He believed that there was in us an *intellectus agens*, or active intellect, and an *intellectus patiens*, or passive intellect; and that the former, coming from without, was eternal and universal for all; whereas the latter, being particular in each one, vanished at the death of the individual. This doctrine was that of some *Peripatetics*—as Pomponatius, Contarenus, and others—for some two or three centuries; and we meet the traces of it in the late Mr. Naudé, as is shown by his letters and by the *Naudeana* which have since been printed. They entrusted it secretly to their most intimate and able disciples; but were clever enough to say in public, that this doctrine, though certainly true according to philosophy—whereby they meant the philosophy of Aristotle particularly—was nevertheless false according to the faith of the Church. Hence arose the disputes concerning double truth, which was condemned in the last Lateran Council.

I have been told that the Queen Christine had a great inclination in favor of this opinion, and, seeing that Mr. Naudé, who was her librarian, was imbued with it, it is quite likely that he had given her the information which he had gathered concerning these secret doctrines from the celebrated philosophers he had met in Italy. Spinoza, who admits only one single substance, is not far removed from the doctrine of a single universal spirit; and even the New Cartesians, who pretend that God alone acts, establish it without being aware of their doing so. It seems also that Molinos, and some other New Quietists, amongst others a certain author who calls himself Joannes Angelus Silesius, who wrote before Molinos, and whose works have recently been reprinted—nay, even Weigelius before them both—have fallen into this opinion of a sabbath or repose of the souls in God. This is why they believed that the cessation of our particular functions was the highest state of perfection.

It is true that the Peripatetics did not hold this spirit to be altogether universal; for, besides the intelligences which, according to them, animated the stars, they had an intelligence for this lower world, which intelligence performed the function

of an active intellect in the souls of men. They were brought to this doctrine of an immortal universal soul for all men by a false reasoning. For they supposed that an actual infinite multitude were impossible; and that therefore it were not possible that there could be an infinite number of souls,—which, however, they argued, must be possible if such things as particular souls exist. For the world being, according to them, eternal, and the human race likewise eternal, and new souls being always born, there would necessarily be an actual infinity of souls if they all subsisted.

This reasoning appeared to them to be a demonstration. But it was full of false suppositions. For we admit them neither the impossibility of an actual infinity, nor that the human race has existed eternally, nor the generation of new souls; even the Platonists teaching the preexistence of souls, and the Pythagoreans the metempsychosis of souls, holding that a certain determined number of souls always remains and performs its revolutions.

The doctrine of a universal spirit is good in itself, for all those who teach it admit in fact the existence of a Divinity; whether they believe this universal spirit to be supreme, in which case they hold it to be God himself, or whether they believe, like the Cabbalists, that God has created it, which was also the opinion of the Englishman Henry More and of some other new philosophers, particularly of certain chemists, who have believed that there is a universal Archeus or World soul; and some have asserted this World soul to signify that Spirit of the Lord, which floated over the waters, spoken of in Genesis.

But when men go so far as to say that this universal spirit is the only spirit, and that there are no particular souls or spirits, or, at least, that these particular souls ever cease to exist, they pass, as I believe, the boundaries of reason, and advance without any support a doctrine of which we cannot even entertain a distinct conception. Let us examine a little the apparent reasons on which this doctrine might be based, a doctrine that does away with the immortality of the soul, and degrades the human race, or rather all living creatures, from that rank which appertains to them, and which has generally been attributed to them. For it seems to me that

an opinion of this extensive character ought to be proved, and that it is not enough to have simply an imagined notion of it, founded on nothing but a very crippled comparison taken from the air that animates the pipes of an organ.

I have shown so far, that the pretended demonstration of the Peripatetics, who held that there was only one spirit common to all men, is of no force, and based altogether on false suppositions. Spinoza has pretended to demonstrate that there is only one single substance in the world, but his demonstrations are pitiable or non-intelligible. The New Cartesians, finally, who believe that it is God alone who acts, have given very little proof of it; and Malebranche, moreover, seems to admit at least the internal action of the particular or individual spirits.

One of the most apparent reasons that have been alleged against the particular souls is that men have been troubled about their origin. The scholastic philosophers have disputed much on the origin of forms, which they understood to include souls. Opinions have been much divided as to whether there occurred an eduction of the force of matter, as the figure is cut out of the marble; or a translation of souls, a new soul arising out of a preceding one just as a fire is kindled by another fire; or whether the souls existed previously, and merely made themselves known after the generation of the body; or, finally, whether the souls were newly created by God each time there occurred a new generation.

Those who denied particular or individual souls believed that the fact of these disputes relieved them of all difficulty; but that was simply cutting the knot instead of untying it. There is no force whatever in an argument like this: men differ in the explication of a doctrine; hence that whole doctrine is false. This is the way in which skeptics reason, and if it were admissible there would be nothing which might not be repudiated. The experiments of our time lead us to believe that the souls and even the animals have always existed, although in small volume, and that generation is nothing but a species of augmentation.* By this all the dif-

* This sentence expresses in a clear condensed manner the essence of Leibnitz's *Monad-doctrine*.—*Translator's note.*

ficulties about the generation of forms and souls disappear. This does not imply, however, that we deny God the right to create new souls, or to give a higher degree of perfection to those that have already a bodily existence in nature; we speak here simply of that which is common in nature, without entering into the particular economy of God respecting the souls of men, which may be privileged, being infinitely above the souls of the animals. What, in my opinion, has also much contributed to imbue ingenious persons with the doctrine of one single universal spirit is this, that the vulgar philosophers propounded a doctrine concerning the separate souls, and the functions of the soul independent of the body and its organs, which they could not sufficiently justify. They had great reason to desire to sustain the immortality of the soul as conformable to the divine perfections and to a true morality; but, seeing that in death the organs which we perceive in animals are deranged and finally corrupted, they believed themselves obliged to have recourse to separate souls; that is, to believe, that the soul subsisted without any body, and did not cease its thoughts and functions after having lost the body. In order to prove this better, they moreover endeavored to show that the soul has even in this life abstract thoughts independent of all material notions. But those who rejected this separate state and this independence as contrary to experience and reason, were thus led all the more to believe in the extinction of the particular soul, and the permanency of the one universal spirit.

I have carefully examined this matter, and have shown that there are veritably in the soul some objects of thought or of the intellect which the external senses do not furnish; namely, the soul itself and its functions*—*nihil est in intellectu quod non fuerit in sensu, nisi ipse intellectus*;—and those who uphold the universal spirit will easily agree to this since they distinguish it from matter: but, nevertheless, I find that there is never an abstract thought which is not accompanied by some material images or traces, and I have established a perfect parallelism between that which occurs

* This is precisely Kant's point: that all our knowledge is empirical except the knowledge of knowledge itself; and that, hence, a science of metaphysics is possible only as a science of knowledge.—*Translator's note.*

in the soul and that which happens in the material world,* having demonstrated that the soul with its functions is something altogether distinct from matter, but that nevertheless it is always accompanied by organs which must respond to it, and that this relation is reciprocal and will remain so always.†

Now so far as the complete separation of body and soul is concerned—although I can say nothing in regard to the laws of grace and to what God has ordained concerning the human and particular souls, beyond what the Scriptures say—since these are things we cannot know through reason, depending as they do upon revelation itself and God himself—I see no reason, neither of philosophy nor of religion, which would oblige me to abandon the doctrine of the parallelism of body and soul, and to adopt in its place the doctrine of a complete separation. For why cannot the soul always retain a subtle body, organized according to its condition, which might even resume some day—on resurrection—that part of its visible body which is necessary; since we do accord to the blessed a glorious body, and since the fathers of the Church have accorded a subtle body to the angels?‡

This supposition is, moreover, conformable to the order of nature, as established by experiments; for the observations of very able observers induce us to think that the animals do not commence to exist as the vulgar think, and that the seed-animals or the animated seeds have subsisted ever since the beginning of things, and that, since order and reason demand that that which has existed from the beginning also should have no end, thus just as generation is nothing but the growth of an animal, transformed and developed, so also death can be nothing but the diminution of an animal, transformed and enveloped, and that the animal should remain the same during all these transformations just as the silkworm and the butterfly

* In his doctrine of the Preëstablished Harmony.—*Translator's note.*

† This same point, of the soul being eternally accompanied by bodily organs, is particularly dwelt upon in Fichte's "Facts of Consciousness."—*Translator's note.*

‡ The younger Fichte, and indeed most of the German philosophers of this day, are developing this point of a more subtle body growing in us during life and becoming our habitation after death, with especial force in their writings on psychological as well as anthropological science.—*Translator's note.*

are the same animal. It is well to remark here that nature has the cleverness and kindness to discover to us its secrets in some small examples in order to lead our judgment concerning the rest, everything being corresponding and harmonious. It is this that nature shows in the transformation of the caterpillar and other insects—for the flies also come from maggots—so that we should be led to divine that there are transformations everywhere. The observation of insects has thus also done away with the vulgar opinion that these animals generate each other by their nourishment, without propagation. It is thus also that nature has shown us in the birds an example of the generation of all animals from eggs, which all recent discoveries have compelled us to admit. This is also the result of the experiments made with the microscope, whereby it has been proved that the butterfly is nothing but a development of the caterpillar, but chiefly that the seeds contain already the plant or the animal full-shaped, although transformation and nutrition or growth should afterwards be necessary to make of the seed one of those animals that are perceptible to our ordinary senses. And as the smaller insects generate themselves in this way by the propagation of the species, we must assume the same of those little seed-animals; that is, that they also come themselves from other still smaller seed-animals, and that thus they have never commenced to exist except when the world commenced to exist;—which accords very well with the Bible, which insinuates that the seeds have existed from the beginning.

Nature has given us, in sleep and swoons, examples which ought to make us assume that death is not a cessation of all functions, but solely a suspension of certain preeminently perceptible functions. I have explained in other works an important point, which, not having been sufficiently considered, has led men more easily to adopt the doctrine of the mortality of souls, namely, this point: that a great number of small perceptions, being equal and balancing each other, and having no set-off or anything whereby to distinguish them, are not remarked by us, and that hence we do not remember them. But to conclude from this that in such states the soul is altogether without functions, is just as when the vulgar believe and assert that there is a void, and that there

is nothing wherever there is no matter perceptible; and that the earth is without movement, because its movement, being uniform and without shakes, is not perceptible. We have an infinity of small perceptions that we cannot distinguish; for instance, a great stunning noise, as the murmur of a vast assembly of people, is composed of all the small murmurs of particular persons, which we cannot perceive in part, but whereof we nevertheless have a feeling, for otherwise we should not feel anything. Thus, when an animal is deprived of organs that furnish it with tolerably distinct perceptions, it does not follow that there do not remain in it smaller and more uniform perceptions, nor that it is deprived of all organs and all perceptions. The organs are merely enveloped and reduced to small volume; but the order of nature demands that everything should redevelop itself and return some day in a perceptible state, and that there is in these vicissitudes a certain well-regulated progress which causes things to die and become more perfect. It seems that Democritus himself has seen this resuscitation of animals, for Plotinus attributes to him the teaching of the doctrine of resurrection.

All these considerations show, how not only the particular souls but even the animals subsist, and that there is no reason to believe in an entire extinction of souls, or even an entire destruction of animals; and that hence we need not have recourse to a universal spirit, and thus to deprive nature of its particular and subsisting perfections; to do which would be indeed not sufficiently to consider order and harmony.* There is, moreover, much in the doctrine of a single universal spirit that does not sustain itself, and becomes involved in greater difficulties than the ordinary doctrine.

For instance: it is at once apparent that the comparison of the air that causes various pipes of an organ to sound differently flatters the imagination; but it explains nothing, and rather insinuates the very reverse. For this universal breath of air in the pipes is nothing but a collection of a quantity of

* The eternal existence and immortality of the same animals and animal souls or monads is one of the most important points in Leibnitz's system, and is in point of fact identical with modern doctrines on the conservation of force, cells, &c.—*Translator's note.*

particular breaths of air, since each pipe is filled with its own air, which may pass even from the one pipe into the other; so that this comparison would rather establish particular souls, and favor even the transmigration of souls from one body to another, just as the air changes pipes. Again: if we imagine the universal spirit to be, like an ocean, composed of an infinite quantity of drops, that are detached from it whenever they animate some particular organic body, but reunite themselves in their ocean after the destruction of the organs, we still form a gross and material notion which does not touch the point, and is embarrassed with the same difficulties as the illustration of the breath of air. For as the ocean is a mass of drops, so God would also be an assemblage of all souls, in pretty much the same way as a beehive is an assemblage of those little animals; but, as this hive is not in itself a veritable substance, it is clear that the universal spirit would also not be in itself a veritable Being, and, instead of saying that it is the only spirit, we should say, rather, that it is nothing at all in itself, and that there is nothing in nature but particular souls whereof it is the mass. Besides, these drops, reunited in the ocean of the universal spirit after the destruction of the organs, would be, in fact, souls subsisting separate from matter, and thus we should fall again into what we wanted to avoid; particularly if those drops retained some remnant of their previous state or had still some functions, and could even acquire more sublime functions in this ocean of the divinity or of a universal spirit. On the other hand, if we assume that these souls, reunited in God, are without any proper functions, we fall into an opinion which is contrary to reason and all sound philosophy, namely, that any subsisting being can ever arrive at a state wherein it is without any function or impression. For one thing joined to another cannot but have its particular functions, which, joined to those of the other things, produce as a result the functions of the whole; otherwise the whole would have no functions since its parts had none. Besides, I have shown elsewhere that each being retains perfectly all the impressions it has received, even though these impressions be no longer perceptible separately, having become joined to so

many others. Thus the soul, reunited with the ocean of souls, would remain always the same particular soul it had been, but separated.

This shows how much more reasonable it is, and more conformable to the order of nature, to let particular souls subsist even in the animals and not outside in God, and thus to conserve not only the soul but likewise the animal, as I have explained above and in other writings; and, moreover, thus to let the particular souls remain always in action, that is, in particular functions which suit them and which contribute to the beauty and the order of the universe, instead of reducing them to the sabbath in God of the Quietists, that is, into a state of slothfulness and inutility. For so far as the beatific vision of blessed souls in heaven is concerned, it is quite compatible with the functions of their glorified bodies, which will always remain organic in their manner.

But if anyone should wish to assert that there are no particular souls at all, not even now, when the functions of thought and sensation are achieved by means of our bodily organs, he would be refuted by experience. which teaches us, it seems to me, that we are something in our individual particular self, something which thinks, apperceives, and wills; and that we are distinguished from other individuals, who think and will something else. Otherwise, indeed, we fall into the notion of Spinoza, or of similar authors, who maintain that there is only one single substance—namely, God—who thinks, believes and wills one thing in me, but who also thinks, believes and wills the very contrary in somebody else—an opinion whereof Mr. Bayle has well exposed the ridiculousness in some parts of his Dictionary. On the other hand, if there is nothing in nature but the universal spirit and matter, we must admit that if it is not the universal spirit itself which believes and wills opposite matters in different persons, it must be matter that is different and acts differently; but, if matter act, what is the use of a universal spirit? If matter, however, is nothing but a first passive, or a pure passive, how can we attribute actions to it? It is, therefore, much more reasonable to believe, that, besides God, who is the supreme active, there are a quantity of particular actives, since there are a quantity of particular and opposite actions and

passions that cannot be attributed to one and the same subject, and that these actives are none other than the particular souls.

Moreover, we know that there are degrees in all things. There is an infinity of degrees between any kind of movement you may suppose and perfect rest, between solidity and perfect fluidity without any power of resistance whatever, between God and Nothingness. In the same manner there is also an infinity of degrees between any active you may suppose, and the purely passive. Hence it is not reasonable to admit only a single active, that is, the universal spirit, with only a single passive, that is, matter.

It is further to be considered that my *matter* is not a thing opposed to God, but rather opposed to the limited active,* that is, to souls, or to the form. For God is the Supreme Being opposed to nothingness, from whom matter as well as all forms result, whereas the pure passive is something more than nothingness, being capable of somewhat, whilst no attribute can be attached to the Nothing. Hence we must combine, in our thinking, with every particular portion of matter particular forms, that is, souls and spirits conformable to it.

I do not wish to recur here to a demonstrative argument which I have elsewhere employed, and drawn from the unities or simple things, wherein the particular souls are included, which indispensably obliges us not only to admit particular souls, but to avow likewise that they are by their nature immortal and as indestructible as the universe; and—what is more—that each soul is, in its way, a mirror of the universe without any flaw, containing in itself an order corresponding to that of the universe itself—an order which the souls vary and represent in an infinity of ways, all different from each other and all veritable, thus multiplying, as it were, the universe as many times as possible, and in this way approaching the Divinity as much as possible according to their different degrees, and giving to the universe all the perfection of which it is capable.

* In Fichte's terminology: the Non-Ego is opposed only to the Ego and not to God.—*Translator's note.*

After this, I do not see what reason or excuse any one can have to oppose to the doctrine of particular souls. Those who do so, agree that that which is within us is an effect of the universal spirit. But the effects of God are subsisting, not to mention that even the modification and effects of His creatures are in some manner durable, and that their impressions merely connect with each other without being thereby annihilated. Hence if, conformably to reason and experience, and as we have shown, the animal, with its more or less distinct perceptions and with certain organs, subsists always, and if thus that effect of God subsists always in those organs, why should it not be permitted to call it soul, and to say that this effect of God is an immaterial and immortal soul which resembles in some manner the universal spirit? especially as this doctrine removes all difficulties, as appears from what I have said here, and in other writings by me on the same subject.*

* Kant, in his *Critic of Pure Reason*, in the *Appendix to the Amphiboly of the Conceptions of Reflection*, enters upon quite an extended criticism of Leibnitz's system—a criticism that has always provoked discussion both as to the occasion and the ground of it. It seems to me that Kant took the occasion from Wolff's system, which at that time prevailed all over Germany, and was universally held to be a systematic representation of Leibnitz's doctrines, and that he was unacquainted with Leibnitz's own writings. Kant's criticism is this, that Leibnitz was, like all previous philosophers, a one-sided thinker; that is, a thinker who is not aware that the two opposite categories of reflection, which can be applied to every subject under consideration, are of equal validity, and that the truth is in taking both these opposite views on every occasion. This is the reason why the criticism occurs as an Appendix to the Amphiboly of the Conceptions of Reflection. Now, it is quite true that Leibnitz never uttered this truth with that clear self-consciousness which gives immortality to Kant's work; but in my opinion it is equally true that Leibnitz was fully aware of it, and became, indeed, aware of it the moment he discovered the Differential Calculus. Kant opposes Leibnitz to Locke, as if Leibnitz had held the one category of reflection only and Locke the other only. So far as Locke is concerned, Kant's criticism is true enough; he, like all English and most other philosophers, clings to his chosen category of reflection, and polemicalizes against the opposite category as if that were altogether in the wrong. But any attentive student, by simply reading Leibnitz's correspondence with Clark, can convince himself that Leibnitz takes especial pains to give to the two opposite views equal validity, and protests only against Locke's one-sided assertion or application of a category of reflection. For further proof, I refer to my article on Leibnitz in the *North American Review* for January, 1869, p. 26-27.—*Translator's note.*

FACTS OF CONSCIOUSNESS.

Translated from the German of J. G. FICHTE, by A. E. KROEGER.

PART FIRST.

THE THEORETICAL FACULTY.

CHAPTER II.

CONCERNING INTERNAL PERCEPTION OR REFLECTION.

All our internal perception presupposes, firstly, an activity of the mind whereby it can free itself from its condition of external perception, and hence posit itself both as a knowing of itself as knowledge (that is, of a limitedness of itself through external perception), and as a knowing of itself as a creative principle (that is, of a power in itself to free itself from that limitedness), which activity of the mind is called intellectual contemplation; and, secondly, an activity of the mind whereby it objectivates this its own power and posits it as an independently existing thing, which activity is called intellectual thinking.

A.—Having thus analyzed the facts of consciousness in *external* perception, it seems that we might now, without further preliminaries, proceed to an analysis of *internal* perception, or reflection, as our second chapter.

But since, as it partly is known already and partly is evident at the first glance, this reflection or internal perception is a condition altogether different from—nay, in part, utterly opposed to—that of external perception, it may seem curious to many how such opposite determinations are possible in one and the same consciousness; and hence, before going further, we first ought to answer this question: how is it possible for the life of consciousness to proceed from one of its conditions to its opposite; or, how is it possible for us at all to proceed from our first to a second chapter?

To solve this question, let us consider together, and let me beg you to find in your own minds true the following:

1. I assert that knowledge in its inner form and essence is the *being of freedom*. What freedom is, I assume to be known to you. Now, of this freedom I assert that it exists absolutely; not, as some one might suppose at the first view, as a quality of some other in-itself-existing substance and inhe-

rent in the same, but as an altogether independent being or existence, and that this independent and peculiar being of freedom is knowledge. I assert that this independent being of freedom places itself before itself as knowledge; and that whoever wants to comprehend knowledge in its essence, must think it as such a being of freedom.

Explanatory.—Here already we get a glimpse of an altogether other, higher, and more spiritual being than common materialistic understanding is capable of thinking. That understanding can very well join something like freedom to a substance as its background, which substance, if closely examined, is however always of a material nature; but finds it very hard, nay, if it has been kept on the wrong track for a considerable time, altogether impossible to arise to a comprehension of an independent existence of freedom. To *prove* such a pure being of pure freedom is a matter belonging to the Science of Knowledge; at present I only ask you to consider such a thought as a possible, problematic thinking. Nevertheless, it can be made clear even here, in immediate contemplation, that knowledge may be actually and in fact such a being and expression of freedom. For in my knowledge of the actual object outside of me, how is the object related to me as the knowing? Evidently thus: its being and qualities are not mine, and I am free from both, floating above and altogether indifferent in regard to them.

2. In every *determined* knowledge, that general freedom which exists, and exists as certainly as a knowledge in general is, is limited in some particular manner. In every determined knowledge there is a duplicity melted into a oneness: *freedom*, which makes it a knowledge; and a certain *limitation* or cancelling of this freedom, which makes it a determined knowledge.

3. All change and all alteration of the determinations of the one general knowledge (or of the one general freedom) must, therefore, consist in either the making loose of latent freedom, or the making latent of loose freedom.

4. But further: since this freedom is to be nothing but freedom and knowledge generally, nothing but the being of absolute freedom, such a making latent or loose of freedom can

be achieved solely through freedom itself. Freedom itself is the principle of all its possible determinations; for if we were to assume an outside ground of those determinations, freedom would not be freedom.

5. If freedom is in any respect latent or chained down, it is in the same respect not loose or free, and *vice versa*; and thus it becomes comprehensible, how various moments of the one universal knowledge must dirempt as altogether opposite to each other.

6. Thus we arrive at the idea of a certain limiting and freeing, or of a *Fivefoldness* together with an *Infinity* in consciousness.

B.—1. Let us now apply these principles, first of all in general, to reflection. In external perception, the altogether simple consciousness—which in no manner rises above itself, or reflects upon itself and the life whereof is therefore not in the least more developed than is necessary to constitute it consciousness—is confined to a determined imaging of its sensation. That freedom which it needs, to bear but the form of knowledge, it receives through the objectivating thinking, which lifts consciousness, though confined to a determined imaging, at least beyond its mere being and frees it therefrom. Hence, in this simple consciousness confined and liberated freedom are united. Consciousness is confined to imaging, but liberated from being, which being is for that very reason transferred to an external object; and hence our knowledge begins necessarily with the consciousness of an external object; for it could not begin lower and yet remain knowledge. In this simple consciousness there is freedom merely of being; and this is the lowest and last grade of freedom.

2. Now knowledge is to rise beyond this determined confinedness of external perception through reflection. It was confined to imaging, and hence must make itself free and indifferent in regard to this imaging, just as in external perception it was free and indifferent in regard to being.

Through the being of a determined freedom there always arises a determined knowing. Here we have freedom from

imaging; hence there must arise a knowing of the image as image; whereas in external perception there occurred a knowing merely of the thing. Here it becomes quite clear, as I said before, that a determined consciousness is the being of a determined freedom. For that, in relation to which freedom is free, is always the object of this determined consciousness. Thus in external perception there was freedom solely in regard to being; and hence arose a consciousness of being, and altogether nothing more. In reflection there is freedom in regard to the imaging, and hence to the above consciousness of being there is joined now the consciousness of imaging. In external perception consciousness said simply: the thing is. But in reflection the newly-arisen consciousness says: there is also an image, a representation of the thing. Moreover, since this consciousness is the realized freedom of imaging, knowledge in respect to itself says: I can image or represent that object or not, as I choose.

3. We have here various new creations:

Firstly, there is as the ground of this newly-arisen consciousness of the image a real self-liberating, a self-liberating on the part of the life of knowledge itself. The determined consciousness, here of the image as the being of a determined freedom, is nothing but the result of the tearing itself loose from its chains on the part of free life, is simply the result of this determined higher life-development on the part of freedom itself. That standing and permanent being of freedom, which now is consciousness, is absolutely created through freedom. Hence this act appears even in consciousness as a gathering together and an exertion.

Secondly, there arises here the knowledge of an image as something altogether new. Did not, then, that external perception which preceded the reflection also contain an image, or not? If the life of consciousness is altogether free, as we have seen it to be, that external perception could surely have entered it only through its own freedom, and thus it seems that the image in external perception must also be always recognized as an image created by freedom. How to think such a thought we here lack even expression. But so much we can say, that the image of external perception could not have been created by a freedom of *actual* knowledge, since

actual knowledge presupposes it as its starting-point, and that hence it is proper to say: external perception did contain not an image but a thing.

But this is merely preliminary. Let us now enter upon a more profound description of the freedom, arisen through this new life-development, in its relation to the image.

In external perception we had, *firstly*, a limitation of the external sense through a determined quality; for instance, of a red color. Hence the freedom opposed to it, the liberation from that confinedness, must consist in a power to freely produce such images of qualities; for instance, an image of not only a red color, but also a yellow color, &c.: a free power of imaging, a power of imagination in regard to sensuous qualities. But since an image of a quality is not possible without a previous actual affection through the external sense, and since a good supply is necessary for a free opposing of many such images, it follows that life must have existed in a condition of mere perception for some length of time in order to be able to rise to such a freedom of imagination.

In external perception we had, *secondly*, a contemplation of extension, and a contemplation of the thing perceived which was confined precisely to this figure, this size, and this location in universal space. Hence the liberation from this sort of confinedness must consist in this, that the imagination, though always confined to extension in general, has a power to freely imagine figure, size, and location.

External perception involved, *finally*, an objectivating thinking. This, while remaining, on the whole, the same—namely, in that the product of imagination is also objectivated or externalized—must be changed so (the limitation of the external sense in general having vanished) that it is posited as the thinking of an object not actual and in fact existing, but merely imagined and freely thought.

Thus the freedom of imagination is actually a real liberation of spiritual life. For, while we wake, our external sense is still determined and affected by that power which as yet is to us unknown; and it is only imagination which lifts us above this affection through the senses, and makes us capable of withdrawing ourselves from its influences by withdrawing our perception and surrendering ourselves exclusively to the

productions of the imagination, thus freely creating an entirely different sequence of time, which has no connection whatever with the time-sequence of sensuous development. In children, during the first years of their lives, this power of abstracting from sensuous impressions doubtless does not exist, and hence also not the power of free imagination. In grown-up persons the strength of this power of abstraction has various grades, according to the standard of their spiritual development. Archimedes was not disturbed in his geometrical constructions by the tumult of a conquered city; but it is a different question whether he would not have been disturbed had a stroke of lightning flashed down near him.

C.—Let us now investigate this still more profoundly by rising from the determined external characteristics of this new freedom to its inner form.

1. In external perception the life of knowledge has causality through its mere being; and, moreover, a determined causality, since causality in general is nothing real, but a mere thought. It is through this having causality that that life of knowledge (the Ego) rises above the object (the non-Ego); for it is not like the object, a dead, permanent being, but a living producing. But in its moments of perception it is confined to this condition of having causality, and, since it cannot generally be confined, it is confined in those moments to a determined causality.

2. The second development of that life, or of the Ego, liberates itself from this confinedness, signifies therefore: the Ego, or life, rises beyond this, having causality through its mere existence, and hence checks this immediate outpouring of its life. But it certainly cannot thereby annihilate all its life. What, then, is it that remains? Evidently a principle which is not a cause through its immediate existence, but which can become such a cause only through the free activity that has arisen through this very new life-development itself. In short, it becomes a principle which, as such, has its separate independent existence, whereas at the first it had existence only as an actual causality. It has, in fact, put its causality, which on the first stage of consciousness was not in its power, now under its newly developed control. Instead of

having as at first a simple existence, it has now attained a double one: a second new being which floats freely over that first simple one; a being which, as its freedom may choose, can be either a permanent self-determined principle, or an unchecked flow of causality.

3. All being of a determined freedom results in a determined knowledge; hence, now that life has made itself a principle, there arises necessarily an immediate consciousness of itself as such a principle. Can this new consciousness be closer characterized?

It certainly has freed itself from a knowledge to which it at first was confined, a knowledge of the object; and through this freeing there has arisen for it a new knowledge, a knowledge of knowledge. But in the same undivided life-moment there has arisen for it a knowledge of itself as a principle, and thus the knowledge of a principle joins together with the knowledge of knowledge into a substantial body of knowledge, a knowing one who is one and the same with the principle; in short, an Ego. I, the knowing, am at the same time the principle which has been liberated from immediate causality. The consciousness, I, starts from a reflection of knowledge and proceeds to that knowledge as a principle; and both become one through their inseparable union in the condition of reflection.

4. Now this Ego, thus first created through the free development of life and entering consciousness, can either remain in this checkedness of its life-development, or surrender itself unto a free constructing of the power of imagination, or surrender itself to external perception.

5. The question now is: whether at this stage of life external perception is in its inner form precisely as it was previously or not. I maintain that it is not precisely so, and everything depends upon getting an insight into this distinction.

a. Through this new development a total change and alteration in the life of consciousness has occurred. Previously this life had causality through its mere being, but now it has no such causality at all; only through its own free act can anything arise in it. It never can even sink back to that previous condition after once having risen above it.

b. Nevertheless the essence of external perception consists precisely in this, that consciousness has causality through its mere being. How, then, can a consciousness, which is no longer a causality, through its mere being perceive externally?

c. Because, although it is no longer confined to that first condition, it can voluntarily surrender itself to it. It can *make* itself to be a consciousness which has causality through its mere being. Such a making or surrendering is well known to every person under the name of *Attention*. The first being, which always remains but does not absorb the being of consciousness, has been joined by a second being which controls the first one. This second being can never be annihilated, but may well surrender itself voluntarily to the first one.

An Illustration.—The perception of a plant by a child before the development of its self-consciousness is distinguished from the attention given by the natural philosopher to the same plant in this manner: the child, if awake, cannot help but see this plant if it falls within its range of vision, since its consciousness is altogether incapable of entertaining another series of observations. But the natural philosopher, even if the plant falls within his sphere of vision, may either see or not see it, as he chooses; for he may fill up the same time of his life with other thoughts. If he chooses to see and observe it, he does so by a free act, and perhaps even by an exertion to tear himself away from his other free thoughts, collecting himself for the purpose of observation: all of which does not occur in the child's mind, since to the child diversion is not possible, as it does not yet possess the diverting power: imagination. Moreover, the child is forced to accept the appearance of the plant as it may chance to present itself, observing particularly parts, which are prominent, by reason of their strength of expression or unusualness, leaving perhaps unnoticed other parts that are not so prominent; whereas the natural philosopher may guide his observation by a certain order, dwelling upon certain parts until he is quite conscious that he has seen them correctly, &c.;—in short, his observation owes its existence as well as its direction to considerate

freedom, whilst in the child both the existence and the direction of its observation result from the child's present standpoint of sensuous development.

6. *Remarks.*—*a.* I have described external perception as a condition wherein consciousness has causality through its mere existence, and the new character added to it by reflection as a power to check that outflowing of causality, and constitute life a principle through a possible free deed. As an illustration of the first condition, I have pointed to the child in the first moments of its life. In grown-up men such condition should never arise again, nor ever be observed by him in himself. But there does arise a similar condition, in a certain sick state of the mind, which belongs to the province of psychology, and hence does not interest us here as such, but which we may also make use of as an illustration. Namely: a person may accustom himself, particularly if impelled by violent passions, to a free and aimless imagining (or constructing through free imagination as described above) to such an extent that this flow of his imagination begins to flow without any free act of his, altogether of itself, and that thus his sick condition begins to have causality in his imagination through its mere existence, just like the natural condition of the child in its early perception. If a sickness of this kind begins to get such a deep root as to render altogether impossible, in the checking of that flow, a direction of attention to external perception, and an opposing of external perception to that flow of imagining: it is called *Insanity*.

Now if such a person were to receive sufficient power forever to check that free flow of his imagination, he would then have himself a free principle in regard to that independent and all-devouring power of imagination; just as, in our first description, consciousness rose from its first stage, and made itself a free principle in regard to the independent external perception, which devoured all its being.

b. One more remark on the distinction of free attention from that external perception which forces itself upon the mind. For the latter it is necessary that consciousness should have causality through its mere being. This causality it retains evermore, and it is cancelled by no freedom. The flow

of external perception continues to flow even for the free person, since he also keeps his senses open. It is only upon his consciousness that that causality has no immediate influence; the flow, however it flows, does not take hold of his consciousness necessarily. If it is to take hold of it he must voluntarily surrender himself to it; he must voluntarily put his consciousness into that state of having immediate causality.

If you call external perception *x*, then in the condition of that perception, *x* is the centre beginning and end of that whole consciousness; it cannot not be. But in the condition of attention this *x* has been all through penetrated with freedom; its existence as well as its duration is product of freedom.

D.—Let us now approach an analysis of consciousness as it is in reflection, which we could not possibly undertake before. It has two components:

1. *Contemplation*.—This has been described before as an immediate consciousness of selfhood, of its condition as well as of its faculty. But now we describe it with still greater exactness as follows: contemplation is that kind of knowledge which results immediately from the being of freedom. But in this description we have also a double contemplation, the component parts whereof are just as distinct as they were found to be in the former case: firstly, a contemplation of the condition, and, secondly, a contemplation of the faculty.

a. The contemplation of the condition may be expressed as *a knowledge of knowledge*; a knowledge of a confinedness or limitation of the internal sense through the perception of a determined external object, precisely as the external sense was in external perception limited by the object itself.

b. The contemplation of the faculty may be expressed as *a knowledge of a principle*, beyond all causality. This contemplation or knowledge is (just as we found extension to be in external perception) a contemplation of the faculty of knowledge. But there is this distinction, that whereas in external perception the infinite faculty realized itself actually and had causality, that is, an *actual* infinity, which was pressed together to a totality only through the form of

contemplation, here the principle generally, without any act or causality, is contemplated in its merely possible infinity.

Let me ask now: is this consciousness of a principle actually a contemplation? If we look at its *form* we cannot but answer yes, since it is the immediate expression of freedom which lifts itself above causality by its mere being; but if we look at the *substance*, we might fall into doubt. For a principle is an activity that extends beyond each of its possible causalities. Here, therefore, appears a going beyond all possible causalities (which are mere phenomena) as the true characteristic of thinking. We must, therefore, say that, in the contemplation of a principle, the characteristics of contemplation and thinking intimately penetrate each other.

2. *Thinking*.—This has also been described before as an externalizing, and manifests itself here as asserting: "I am; I exist independently—independently even of my knowing myself—now and forever. It is true that I also contemplate myself; but I do not get existence through this contemplation, nor shall I cease to have existence if this contemplation withdraws its breath, for I have an independent and on-itself-reposing existence." Hence there is here a going beyond all possible contemplation, and this going beyond constitutes the real character of thinking. Just as in external perception consciousness did not say, as it ought to have said on the basis of contemplation alone: "I behold such and such," but said, "Such and such a thing is"; so in the present reflection consciousness does not say, "I behold such and such a principle," but, rather, "Such and such a principle is." Now these two or three—as you choose—components of reflection unite here together, just as in external perception, to an organic unity and inseparability. Hence the first named component takes also part in the effect of thinking, and there enters thus into the complete and actual consciousness not only a mere knowledge of knowledge, but moreover an independent being of such a knowledge; hence a knowing mind as the independent bearer of knowledge in all knowledge—at least, in all knowledge of external objects. It is quite evident that this knowing mind is the same in all knowledge

which it originates through freedom. Again: since the principle and the knowing mind get their being through the same one thinking, it is quite evident that this being is also the same; and thus the thought of the Ego is made complete.

Let us ask here, even as above: what sort of thinking is that thinking we have just described? The thinking of the external object was an absolutely unconditioned thinking, a thinking which has existence just as soon as consciousness has existence. But the present thinking is a thinking conditioned by free reflection; hence a second thinking, and probably the second in order.

Furthermore: we observed, in regard to the first thinking, that it would not be proper at all to say: I think this thinking and by means of it the object; but rather: the universal and independent thinking itself thinks the object. So likewise here. The thinking which occurs here first thinks the Ego and gives it its being. For surely the Ego cannot well think before it is, and generate its generator! Hence the Ego is, precisely like the external object, the product of universal thinking, and is given to itself through this thinking just as the external object is given through it.

Hence also I cannot say properly: It is I, the free Ego, who represent this object—for whatsoever in my representation I intermix with my freedom is not objective;—but rather: I am free simply to direct my attention to this object, or to abstract from it.

This is highly important. For, as I assert (and you doubtless have convinced yourselves of the correctness of my assertion by your own observation and contemplation), the Ego—as we for the present call it, and as the ordinary use of language calls it, apart from the Science of Knowledge—posits neither the external object nor itself; but both the external object and itself are posited through the universal and absolute thinking, and this thinking gives to the Ego not only the object but also itself. The free productions of its imagination, the Ego, perhaps, may posit itself. Nevertheless the science of Knowledge has hitherto been generally understood as asserting the very reverse of what I have just now stated. Now it is certainly true that the Science of Knowledge has

said, and will ever say, and says to you now, that the Ego posits absolutely itself as well as in itself the object. But in saying this it does not speak at all of the empirical Ego, but of an Ego which is altogether concealed to ordinary eyes, cannot be found at all within the sphere of facts, and can be recognized only by a rising to the fundamental ground. But this only the Science of Knowledge can justify.

E.—*Remarks.*—1. This is the proper place to state more definitely the peculiar nature of thinking. I have said before that thinking adds no new ingredient whatever to contemplation, but merely gives it another form; elevating it above its flowing, phenomenal nature, and changing it into an independent being. It is thus in the immediate act of original thinking; and the result thereof is, therefore, also independent and permanent, since that thinking is a development and progression of independent life. Now let us suppose that this result of thinking—i. e. the objective being which thinking adds to the object of contemplation—is analyzed just as it is found after that original act of thinking, and we shall find in it a twofoldness, i. e. firstly, a being which has or carries certain qualities, and, secondly, those qualities themselves. And now I would ask anyone to tell me what that being, substance, or bearer of the qualities (accidences) is in-and-for-itself, or whether he has a single word wherewith to characterize it as such being, or whether, if he casts aside this merely formal being, he retains anything else than the qualities. Hence that being or substance (the thing *per se*) is nothing at all in itself, but is merely the accidences in the form of thinking. That bearer is nothing but the eternal being-born by the eternal and universal thinking of the accidences. Now let us suppose further, that I start with my thinking from the substance, and characterize it (as I cannot well do otherwise) through its qualities: how, then, do I name *it* in relation to that which, considered as a mere quality, I name simply *blue*, *round*, &c. I suppose I name it a *blue thing*, a *round thing*, &c., and cannot well name it otherwise. Let us now apply this to the just considered case, wherein knowledge is changed through thinking in reflection into a *knowing one*. “To know”

is a general flowing quality, and expresses an accidental characteristic precisely like blue, round, &c. Now thinking takes hold of this accidentality and raises it into the form of independent being. How, then, must we name that which is discovered in analytical consciousness as the result of such a thinking, and how will it be named by the natural use of language if left to itself? Evidently not a knowledge, but a knowing one, since through thinking there has arisen a substance, and a permanent, firm bearer of all knowledge.

2. It is to be observed, moreover, that we have now discovered two utterly distinct acts of thinking as facts of consciousness. For, we either retain the qualities, simply forming them through thinking, and this is a thinking according to the form of *substantiality*, wherein we have a substance with its accidents; or we proceed altogether beyond the accidents and do not retain them at all, in which case we think a principle, or ground, or the relation of *causality*. Through the first mentioned manner of thinking we have now obtained two substances; *firstly*, the object of external perception, and, *secondly*, the Ego as a *knowing substance*. The second manner of thinking occurs only in an absolute synthesis of thinking, as we have seen, in which synthesis that thinking, or the Ego, is changed through the first link of thinking into a substance, and through the second link into a principle.

Let us finally observe, that the object of external perception can never become ground or principle, as the Ego is, and as we have explained it to be, but only a *cause* through its mere existence, as will appear hereafter. So far as the Ego is concerned, there is here a twofold relation. In regard to external perception the Ego is purely substance, and by no means principle or ground. The Ego is principle or ground solely in relation to the productions of its inner freedom, and it is only through its being thus a principle that it becomes also the substance of the knowing of these productions. This distinction will be very important hereafter.¹

THE DEPARTMENTS OF MATHEMATICS, AND THEIR
MUTUAL RELATIONS.

By GEORGE H. HOWISON.

I. — HISTORICAL.

The classification of the Mathematical Sciences is a comparatively recent form of exercise for the human intelligence. Indeed, to the ordinary reader, the multitudinous variety of the branches seems to preclude the conception of a harmonious whole. Merely to read the list, following as far as possible the order of study,—Arithmetic, Algebra; Geometry, Trigonometry, Mensuration, Plane Surveying, Navigation; Conic Sections and Analytic Geometry; the Calculus of Finite Differences, the Differential and Integral Calculus, and the Calculus of Variations; Mechanics; Astronomy, Theoretical and Practical; Geodesy, Topographical Surveying, Nautical Astronomy; Engineering, Civil, Military, Naval, and Mechanical; Mining and Architectural Calculations, and Stereotomy; Physico-Mathematics, including Optics, Thermodynamics, Acoustics, and Molecular Mechanics—is not the imagination at once confused by the interminable array of topics? The differences, rather than the resemblances, of the various members of the series strike the attention. We seem to be caught away in an indistinguishable whirl,—the whole appearing as “a mighty maze, and *all* without a plan.” Or, if to the thoughtful student there comes to appear a certain coherence and development in the elementary branches of Arithmetic, Algebra, and Geometry, he finds the continuity of his conceptions suddenly broken up when he reaches the province of Analytic Geometry. The interruption only extends itself when he enters the misty region of the Infinitesimal Calculus, and finally leaves him drifting about amid the tantalizing shadows of methods that seem wholly arbitrary. And yet our list, long as it is, gives no hint of how Geometry breaks up and shades away into Plane, and Solid, and Spherical, with episodes of Planimetry and Stereometry, of Stereography and Descriptive Geometry. We have not mentioned

the so-called New Geometry, with its Transversals, its Anharmonic Ratio and Harmonic Conjugates, its Reciprocal Polars and Centres of Harmonic Means; nor the Modern Algebra, with its armament of Discriminants, Determinants, Invariants, and Co-variants; nor yet the Quaternion, just risen into view, with its Fourfold of Impossibles capable of representing every Real, and bringing in a train of Double, Triple, Sextuple, and other Multiple Algebras.

To this manifold diversity, as a source of difficulty, must be added the fact, that the system of mathematics has only unfolded itself by the slow progress of ages, and never assumed its normal proportions till toward the close of the eighteenth century. In fact, its subtlest principles never came to consciousness until the invention of the Higher Calculus in the latter part of the seventeenth century, and another century elapsed before the principles thus revealed had taken consistency and thoroughly reorganized the science. Meanwhile, the great mathematicians were so much absorbed in the exciting business of perfecting the Calculus of Leibnitz and Newton, and in the wonderful physical discoveries to which it led at once, that they had neither time nor inclination for those less fruitful meditations which the philosophy of their science demands.

The result has been, that, although every member of an enlightened community is now familiar with the details of at least one branch of mathematics; and although the elementary study of all its branches known at the time, has in all civilized ages been counted essential to liberal education; still, the co-ordination of its various parts has, until recently, received no proper attention, and may even now be regarded as a matter of controversy. If Berkeley, D'Alembert, Carnot, and Lagrange, had succeeded in reaching the fundamental principles of some of the branches, or in re-establishing a *principle* of continuity which the Calculus of Leibnitz and Newton had seemed to interrupt, the actual co-ordination itself—the comprehension of mathematics as an organized whole—still awaited realization at the beginning of the present century. Comte, the founder of the Positive Philosophy, opens in 1829 his lectures on the *Philosophy of Mathematics* with the following notable statement:*

* *Cours de Philosophie Positive*, tome 1, p. 117.

"Although the science of mathematics is the most ancient and the most perfect of all sciences, the general conception which we should form of it is not yet clearly determined. The definition of the science, and its principal divisions, have hitherto remained vague and uncertain. The plural name by which it is usually designated would of itself be sufficient to indicate the want of unity in its philosophic character, as it is commonly conceived."

And so well founded does John Stuart Mill consider this sweeping assertion, that he declares* that Comte "may truly be said to have *created* the philosophy of the higher mathematics," and that his speculations on this subject "are among the most valuable gifts for which philosophy is indebted to that eminent thinker."

It is to be doubted whether the results of Comte's labors will justify this exalted opinion; but the bare fact of its expression by Mill is sufficient to indicate that the field of mathematical philosophy had been but little cultivated before Comte's day. It is unquestionable that Comte was deeply indebted to some of his immediate predecessors—to Carnot, for instance, and, above all, to Lagrange—but this he has himself declared, with enthusiasm;† and, when all the deductions on this score have been made, he must still be credited with the only serious attempt to set forth comprehensively, in a united system, the Idea of mathematics as a whole, and to carry out in complete detail its logical development into its several branches. To be sure, in 1755, Montucla conceived and partly executed the plan of writing a history of all mathematical science,—a work which he revised and began to republish in 1798, and which, upon his death in the midst of his labors, his friend Lalande brought to completion three years later; but this work, vast in design and compre-

* *System of Logic*, New York, 1846, p. 369. Sixth edition, London, 1865, v. II., p. 153.

† *Cours de Philosophie Positive*, t. 1, p. 118: — "..... les derniers perfectionnements capitaux éprouvés par la science mathématique ont directement préparé cette importante opération philosophique, en imprimant à principales parties un caractère d'unité qui n'existait pas auparavant; *tel est éminemment et hors de toute comparaison l'esprit des travaux de l'immortel auteur de la 'Théorie des Fonctions' et de la 'Mécanique analytique.'*" Again, p. 241: "..... Carnot présente enfin la véritable explication logique directe de la méthode de Leibnitz..... Carnot a rendu ainsi à la science un service essentiel, et dont l'importance me semble n'être pas encore suffisamment appréciée."

hensive in scope to a degree that will keep it the storehouse for generations of investigators yet to come, falls far short of coördinating the parts of the science,* and labors heavily with its enormous mass of imperfectly digested material. Prompted by his sense of these defects in the work, the mathematician Bossut, while Montucla's revision was coming through the press, published his *Histoire générale des Mathématiques*, a book characterized by thoroughness, brevity, and a clear arrangement based on an attempt to define and classify the science and its branches; but he advanced no farther than to divide mathematics, by the arbitrary rule already in vogue, into *Pure* and *Mixed*: referring to the former class Arithmetic, Geometry, Analysis, and Analytic Geometry; and to the latter, Mechanics, Hydrodynamics, Astronomy, Optics, and Acoustics. So that, while Montucla and Bossut both contributed toward *presenting* the total field of mathematics at a single view, neither of them can be said to have brought it under the control of one all-pervading Thought.

Nor do the labors of Hegel interfere seriously with the peculiar claims of Comte. For, though in 1812 Hegel devoted the whole second chapter of his celebrated *Logik* to the dialectic of Quantity, aiming to show up the transition from Quality to Quantity in the Pure Thinking, and to trace the very Ori-

* Lest I be thought unjust to the patient and thorough Montucla, I here subjoin his attempt at classification:—

I. *Pure, or Abstract Mathematics* :

1. Arithmetic = Science of Number;
2. Geometry = Science of Figured Extension;
 - a. Elementary, extending through the Circle,
 - b. Transcendental; including the other Curves,
 - a. Finite.
 - β. Infinitesimal.
3. Algebra = the *Mediation of Arith. and Geom.*, and including both [strangely defined, again, as "Arith. by Signs." and as "Science of *any* Relations—of Magnitude in general"] and subdivided as
 - a. Ordinary, dealing with Finités, Solution of Equations, and Theory of Curves.
 - b. Infinitesimal = the Diff. and Integ. Calculus.

II. *Mixed, or Physico-Mathematics* :

1. Mechanics,
2. Astronomy,
3. Acoustics,
4. Optics, etc.

gin, or First Rise, of the conception of Quantity in the process of Intelligence; though he offered an absolute definition of Quantity in its total comprehension, and endeavored to unfold its relations to Space, Time, Motion, and Number; though he entered upon a detailed critique of the Mathematical Infinite, and believed that he had exposed the unphilosophical character of the Infinitesimal Calculus as expounded either by Newton or Leibnitz: yet his treatment of mathematics is, upon the whole, fragmentary; thoroughgoing classification is nowhere attempted in it; and his criticism (even granting that its fundamental definitions are correct, which few perhaps will concede) is at best but germinal, and not applied in detail to subordinate the science.*

So far, then, as concerns the actual grasping together of all the branches under one superintending conception, and attempting to work out their logical rise from it with something like a mastery of their details, it seems to me that Comte's claim to prominence cannot be successfully challenged. It must be remembered, however, that this claim rests on his comprehensiveness of grasp alone, some of the most important principles of his classification having been provided to his hand, as already noticed, by Lagrange mainly, and, in a lesser degree, by Berkeley† and Carnot.‡ If, then, the system which he unfolds is in some points marked by a far-and-wide-reaching insight, and in others is still open to serious criticism, the praise and dispraise should be distributed impartially among its several authors.

* In this comparison between Comte and Hegel, let me be distinctly understood to refer to *comprehensiveness of formal method* alone: Hegel's labors occupy a different field from Comte's, and an altogether higher—as much higher as Essence is than form.

The only other writers who, so far as I am aware, have entered the field of *general* mathematical philosophy, are J. S. Mill and Professor Bledsoe of the University of Virginia. The latter published in 1868 a *Philosophy of Mathematics*, which however makes no claim to exhaustiveness, dealing mainly with Geometry and the Infinitesimal Method. The author treats Comte, and Mill's opinion of him, with undisguised contempt, asserting that he "has added not a single idea to those of his predecessors, except a few false ones of his own."

Mill's *Logic* and his *Examination of Sir W. Hamilton's Philosophy* both contain chapters giving general views of mathematics, in the Comtian spirit indeed, but under new and interesting aspects.

† Berkeley's *Works*, v. II., p. 422.

‡ Carnot, *Réflexions sur la Méthode du Calcul Infinitésimal*.

The very fact, however, that Comte's system thus reposes, in a certain sense, on the highest combination of mathematical and metaphysical genius that preceded him, renders it proper that any later attempt in the same field should start from a correct estimate of his work. I therefore now proceed to the details of his scheme.

Comte sets out with a critique and estimate of the current definition of mathematics—a definition that is current still. *Mathematics is the science of magnitudes*, he quotes; or, rather, *the science which has for its object the measurement of magnitudes*. Of this definition, which to the general reader, or writer, even at this day is eminently plausible, simple, and lucid, he has not a high opinion. It is “vague and meaningless”; it “has singular need to acquire more precision and depth”; it is a “rude outline”—a “scholastic glimpse.” His objection to it seems fatal, however; evidently, it does not raise mathematics above the mechanical art of laying off an assumed unit on the magnitude which we wish to measure; it is silent as to any *indirect* measurement of magnitudes, by deriving their measures from the known or readily determinable measures of others with which they are connected by some known law. And yet measurements of this latter class are the staple of mathematics as it exists,—are the only ground on which the title of *science* (or methodized knowledge) can be claimed for it,—are, in Astronomy, Geodesy, Thermodynamics, Celestial Mechanics, its chief glories. How but by indirect calculation can we ever measure the distances of the planets, or prophesy the existence, place, and orbit, of one before unknown? How otherwise can we measure an arc of the meridian; or determine the mechanical equivalent of heat; or demonstrate the law that the planetary periods vary in the sesquiplicate ratio of the mean distances from the sun?

Conceding, however, that the “scholastic glimpse” is “at bottom just,” in virtue of mentioning measurement of *some kind*, Comte works his way up from it by means of such considerations as have just been hinted, and arrives at what he terms a “definition worthy of the importance, the extent, and the difficulty of the science.” It is as follows:—“We have now come to define the science of mathematics with exacti-

tude, by assigning as its object the *indirect* measurement of magnitudes, and saying that we constantly propose in it *to determine magnitudes one from another, according to the fixed relations which exist among them.*"*

From this definition, which, compared with the former, surely seems vital and full of meaning, Comte sets forth on the march of classification. He finds, as it implies, that every actual mathematical problem in the natural world involves two great steps: the first, the determination of the "fixed relations" among the magnitudes of natural phenomena; the second, the representation of these relations in an equation, and the final determination of the measurement sought by the numerical solution of that equation. He thus provides for two grand divisions, into one or the other of which all the mathematical sciences must fall: to the first, inasmuch as it deals (as he thinks) with the relations of natural phenomena, and seeks the *laws* (or, as he deems them, the *generalized facts*) of their quantification, he gives the name of *Concrete Mathematics*; to the second, whose business is solely to note and reduce the forms of equations, and to combine numbers, by modes of operation determined by thought alone, and therefore independent of the merely phenomenal world, he gives the name of *Abstract Mathematics*. Of the subdivisions of this Concrete branch, he soon disposes: they are, for the time being, *two*,—Rational Mechanics and Geometry, the latter separating again into the ordinary Pure Geometry (which he calls Synthetic or Special), and Algebraic Geometry (which he names Analytic, or General). He is not sure, however, but he ought to include *Thermology*, or the laws of the quantification of Heat, as a *third* principal subdivision of Concrete Mathematics, co-ordinate with Rational Mechanics and Geometry. This, because the investigations of Baron Fourier had just then resulted in the establishment of direct equations of heat,—algebraic expressions of the quantitative laws of heat itself, independent of any modified application of me-

* Nous sommes donc parvenu maintenant à définir avec exactitude la science mathématique, en lui assignant pour but, la mesure *indirecte* des grandeurs, et disant qu'on s'y propose constamment de *déterminer les grandeurs les unes par les autres, d'après les relations précises qui existent entr' elles.*"—*Cours de Philosophie Positive*, t. 1, p. 129.

chanics. Thus, he evidently regarded the real number of his subdivisions of Concrete Mathematics as liable to increase at any time by the fortunate rise of physical discoveries; in fact, their number should be potentially without limit, or have at all events no other limit than man's capacity to generalize the phenomena of the physical world. And here we must note, that, in ranking Geometry and Rational Mechanics with a science so clearly empirical as Thermodynamics, Comte proceeded deliberately: it being his conviction that all geometric properties, as well as the laws of motion, were mere generalizations from our experience in the natural world. He did not even except the so-called mathematical axioms from this sweeping opinion—an opinion, by the way, in which he enjoys the entire concurrence of John Stuart Mill.

Having thus closed the discussion of the Concrete Mathematics, Comte proceeds to unfold the subdivisions of the Abstract, whose business, as we have already seen, is actually to *derive* the measurements of required magnitudes, in accordance with the laws imposed by the Concrete; thus he finds that, in this province, every measurement, or *value*, is a *derived* value—is obtained from other *given* values by a series of definite operations, inseparable from our experience of the nature of numbers, and whose combinations vary to express the various *laws* of derivation which the nature of geometric, mechanical, or thermological phenomena may require. In a word, in his second province every required value is, as the mathematicians say, a *function* of some given value or values: it is derived from them by some uniform rule, and must vary whenever they vary. He therefore re-names his second province by the title of Analysis, or the *Calculus of Functions*, and advances to the subdivision of this calculus.

And here his doctrine that all the laws which express themselves in functions are generalized from experience, and that the equations expressing those functional laws must therefore become more and more complex as the scale of the phenomena investigated rises higher and higher in complexity, requires him to recognize two general cases: the first, where the quantifications of phenomena are sufficiently simple to

be put directly into equations; the second, where these are so complex that we cannot reach their own relations, but are obliged to call in the aid of certain relations among the elementary constituents of the phenomena, known in mathematics as the *differentials* of original quantities: between these elements, whose relations we can express, and which are connected by uniform laws of derivation with their primaries, the principal phenomena, we then establish equations, and apply to them a calculus which enables us to pass back and forth from them to their primary phenomena and reciprocally. Thus, his general Calculus breaks up into a *Calculus of Direct Functions*, which he calls Ordinary Analysis; and a *Calculus of Indirect Functions*, which he names Transcendental Analysis.

The Calculus of Direct Functions involves two steps: we have to determine general laws of transformation, or general rules for the solution of equations; and we have to apply these to the specific numerical equation of the problem in hand, or determine the numerical value of its roots. So Comte passes immediately to the familiar branches of *Algebra* and *Arithmetic*. Of the singular confusion in his treatment of these, I shall speak hereafter.

The Calculus of Indirect Functions, in general, also involves two steps, or rather phases of procedure: we may have to pass from the primary phenomenon to the "differential" of it; or, backward, from a given "differential" to the primary phenomenon termed its "integral." And these two phases • Comte finds so interwoven in many problems, that he groups them together as one, and waits for their counterpoise in his scheme until he discusses that special case (as he calls it) in the Integral Calculus, where we have to pass back from a differential given under such conditions that its integral is *unknown*, and is supposed to be itself gradually *changing*, in accordance with some mathematical law. Thus he finally subdivides his Transcendental Calculus into the *Differential and Integral Calculus* and the *Calculus of Variations*.

His scheme may be recapitulated as follows, inverting the order of the foregoing outline, as he himself does in the detail of his lectures:

I. ABSTRACT MATHEMATICS = *Analysis, or the Calculus.*

1. **ORDINARY ANALYSIS** = the Calculus of Direct Functions.

a. Algebra = the Calculus of Functions *per se*.

b. Arithmetic = the Calculus of Values.

2. **TRANSCENDENTAL ANALYSIS** = the Calculus of Indirect Functions.

a. Diff. and Integ. Calculus. }
b. Calculus of Variations. } [These lack a coördinating Definition.]

II. CONCRETE MATHEMATICS = Investigation of *Calculable Laws of Phenomena.*

1. [THERMOLOGY = Math. Laws of Heat.]

2. **RATIONAL MECHANICS** = Math. Laws of Physical Motion.

3. **GEOMETRY** = Math. Laws of Physical Figures.

a. Synthetic, or Special { Graphic.....Algebraic.
Descriptive.....Trigonometry.
b. Analytic, or General { of Two Dimensions.
of Three Dimensions.

II.—CRITICAL.

The strong points of the foregoing scheme are obvious:—it sets out with a definition of the science which commends itself at once, to all who are practically conversant with mathematics, as a comprehensive and striking description of what is actually done there; its definitions of the subordinate departments have the quality, essential to science, of describing their subjects by their object-matter; and, in dividing the science into two great realms, the one occupied with the investigation and proof of those laws which govern the derivation of functions, and the other with the actual derivation (or, as the technical phrase is, the *computation*) of the functions, it is not only again in wide accord with the evident facts, but seems at once to indicate, by its luminous and penetrating principle, the pathway through any remaining intricacies of the subject. Doubtless in mathematics we *are* invariably occupied either in establishing laws which connect the value of one quantity more or less immediately with that of another, or else in actually computing such a derived value in accordance with its connecting law. Thus, in Mechanics, we establish numerical laws of motion or force—laws by which the total motion may be derived from the velocity and time, or the acquired velocity from the time and rate of acceleration, or the force from the resistance overcome; in Geometry, we establish numerical laws of form—laws by which we can more

or less directly find the dimensions of one part of a figure from others that are given ; while, as results of these two sciences, we form equations expressing the adjustment of such laws, whether mechanical or geometric, to the conditions of any given problem, and then proceed to transform them by algebraic computation, until at last we bring the value of the required quantity within the direct domain of Arithmetic, computing it by some one of the elementary rules. And when this broad distinction between *creating* and *computing* functions is once made, it seems as if our way were tolerably clear to the correct subdivision of the corresponding departments.

But, if we thus recognize the correctness of Comte's scheme in the leading outlines, it seems to me that we must still decide that it is open to serious criticism in many of its most important details. Even to his definition of mathematics, exact as is its descriptive character, the careful metaphysician will have to object that it lacks, after all, the thoroughly scientific quality, because it fails entirely to connect its system of indirect measurement with the essential nature and properties of quantity in general. There being an elemental conception of intelligence called Quantity, and mathematics having by universal consent some very important relation or other to that conception, it devolves upon a complete philosophy of mathematics to show precisely what that relation is, and the exact dialectic by which the conception arises in the process of intelligence, and unfolds itself into such phases as necessitate that general character of combined law-discovery and calculation which we have seen belongs to mathematics. In fact, a failure either to ascend from the correct general description of what mathematics *does*, through all intervening conceptions, to its more generic expression in terms of the supreme conception Quantity, or else to descend from this conception through the proper logical intervals to the natural development of the definition-by-what-is-done, would seem to shut out the subject from the realm of strict science altogether, and to represent it as being a science only in virtue of being a systematic *art*—an art, that is, whose rules can be stated in methodical order. Now, it appears to be an instinctive conviction that mathematics is, on the contrary, a science in

the severest sense, namely, of a system of intelligence pervaded by a sovereign Idea—a conviction which I shall presently attempt to verify by analysis—and this can never be satisfied by any treatment of the subject which reduces its fundamental character to that of an art, no matter how methodical the art may be. Moreover, even should we have to admit that a *complete* dialectic of mathematics, as a phase in the entire science of Quantity, has thus far not appeared by reason of our inability to define Quantity itself, or to exhibit its Rise out of the Prior Elements of Intelligence, still a philosophy accurate as far as it reaches should be competent to show *why* “measurement” is the problem of mathematics, and *why* it is accomplished by indirection—an indirection, moreover, not arbitrary, but coherent according to a determinate system; it should be competent to show just what “measurement” logically is, by exhibiting how it arises out of the interaction of the logical constituents of Quantity itself, as these are taken-up-again into intelligence. That Comte’s definition does not even attempt this, is due to the very nature of the Positive Philosophy: he would unquestionably claim that he had finished his task when he was able to assign a description of mathematics so generic as to include all the facts of its use that come within the range of sensuous experience; but we have only to contrast this result with what a searching intelligence asks, as pointed out above, to appreciate the inherent deficiency of a method whose sole convincing evidence is a generalized experience of the natural world.

And this deficiency displays itself more clearly when we come to estimate the detail of Comte’s classification. First of all, granting that mathematics, as a method of measurement by means of functions, does naturally fall into the two departments of *creating* and of *computing* functions, with what propriety is the one called *Concrete*, and the other *Abstract*? Surely not because the laws established in the first are in any sense more specific, or more definitely comprehensible, than the rules of computation applied in the second; surely not because a law of algebraic transformation is any more vague or filmy than a law of Mechanics or a proposition in Geometry; surely not because the rules of computation are of more sweeping generality than the laws of motion or

the properties of figure. The rule that one and one make two is indeed necessary in its truth, and universal in its application, wheresoever we find one unit to combine with another, whether in the world of nature or in the universe of thought; but the law that the total motion is jointly proportional to the velocity and time, is likewise necessary in *its* truth, and universal in *its* application, no matter where we find a uniform motion, be it in the finite world of material bodies or in the infinite world of conceivable atoms; and so, also, the theorem that the square upon the hypotenuse of a right triangle is equal to the sum of the squares upon its other two sides, is necessary in *its* truth, and universal in *its* application, no matter whether we consider any right triangle that may occur on the earth, or any of the infinitude of right triangles that we may choose to imagine. Thus the laws of the creative and computative departments of our general Theory of Functions are alike, and equally, universal and necessary: otherwise, indeed, they would not be *laws*: and they only differ in their subject-elements, the former class being laws of *motion* or of *form*, and the latter laws of *number*. Not on the ground, then, of the ordinary and natural distinction in the meaning of those terms, can we call the one class concrete, and the other abstract: let us, therefore, try the distinction which Comte himself proposes. "The first class," says he,* "should be called *concrete*, since it evidently depends on the character of the phenomena considered, and must necessarily vary when we examine new phenomena; while the second is completely independent of the nature of the objects examined, and is concerned only with the *numerical* relations which they present, for which reason it should be called *abstract*." Now, when we reflect that the entire computative side of mathematics is simply a system of transforming and valuing functions by applying to them the fundamental properties of number, Comte's last statement is seen to ignore the manifest fact that his second class is concerned with laws quite as much as his first—with laws, too, that quite as much depend upon the character of the "phenomenon" *number* as do those of Mechanics and Geometry upon the nature of *mo-*

* *Cours de Philosophie Positive*, tome 1, p. 132.

tion and *form*. Moreover, the generic laws of motion and form do *not* vary with the phenomenon considered—unless we mean by this statement, that the laws change when we pass from the province of motion to the province of form, or that the laws of uniform motion differ from those of accelerated motion, and those of rectilinear figures from those of curvilinear; and even when we recognize this last obvious fact, and contrast the variety which the laws of motion and form present, with the almost absolute uniformity of the laws of number,* the truth is not expressed by saying that the laws of number are *abstract* as compared with those of motion and form, but by saying that they are more *simple* and *uniform*. In short, Comte's statement sums itself up in the clear proposition, that the laws of motion are one thing, the laws of form another, and the laws of number still another: which can hardly be gainsaid. But the only warrant that this can give for calling the laws of motion and form *concrete*, and those of number *abstract*, lies in a somewhat plausible play upon words: we may fancy that we cannot conceive of the former except as *mixed up* (*concretas*) with the perpetual flux of physical phenomena, whereas the latter are readily and usually conceived of as entirely *withdrawn* (*abstractas*)† from such a commixture. The plausibility, however, is superficial and deceptive: for, as above shown, the laws of motion and form are as completely separable in thought from the phenomena in which they appear to our senses as are those of number, both being universal and necessary; and, on the other hand, were it true that we only reach the laws of motion and form by generalizing upon the facts observed by the senses, consistency would require us to maintain that all the laws of number, even the fundamental axioms, are reached in the same way;‡ for nothing is more obvious than

* The continuity of the laws of number is only broken by the distinction between *commensurable* and *incommensurable* numbers.

† Thus, we have in our common Arithmetics the time-honored title of *abstract numbers*. The phrase is inaccurate, but nevertheless serves well enough to call up the important truth, that numbers may be taken both abstractly and in the concrete.

‡ This is what Mill actually does maintain. See his *System of Logic*, v. i., p. 260.

that numbers and their combinations are everywhere existent in the natural world, and are therefore a perpetual element of our daily experience.

It thus appears that the attempt to distinguish as *concrete* the establishment of laws of functional derivation, and as *abstract* the application of the properties of number to the actual derivation of functions, is essentially unscientific. The distinction breaks up under the light of reflection: what is called concrete may just as well be called abstract; what Comte calls abstract may, upon his method, just as well be called concrete; or, rather, *should* be called so, thus convicting him of inconsistency in the use of his own principles. And such must of necessity be the result of every attempt to set up as categories of science the Abstract and the Concrete—those twin Phantoms which reflection conjures up to aid it in its progress toward the comprehension of real existence, but which make no part of the abiding truth of that existence, into whose living completeness they are both absorbed.

The unscientific character of Comte's distinction of mathematics into Abstract and Concrete, shows itself in a second defect of his scheme, namely, in the subdivision of the Law-forming department into Geometry, Mechanics, and Thermology, with the implication that the subdivision is in a sort of suspense, awaiting an indefinite expansion by the discovery of new quantifying "laws" in the departments of Physics. The notion of a "suspended" science is of course self-contradictory; yet into this contradiction Comte directly falls, in conceiving of the laws of form and motion as having a "concrete" character merely: that is, as founded solely upon Induction, and therefore of course inviting into their own rank the results of induction known as the "laws of heat." For, in consistency, not only the laws of heat, but those of light, and sound, and color, and magnetism, and electricity, and chemical affinity, and vital force—the laws, in short, of the whole circuit of the Correlation of Forces—should be advanced into the same co-ordination. In fact, there should be no limit to the number of sciences coördinate with Geometry and Mechanics, except the limit fixed by the possible number of physical phenomena and the power of the human mind to discover their "laws." And since physical phenomena exist of necessity in an infi

nite progression, the possible subdivisions of "Concrete" mathematics should be infinite in number.

This defect in Comte's classification appears to arise from his failing to distinguish clearly between the *essential nature* of a mathematical law, and the *application* of it to the material world; a failure very liable to occur in the attempt to put Mechanics into its proper place in the entire scheme of mathematics, as the treatises upon that branch do not as yet dis sever the laws of rest and motion from the equilibrium and motion of *bodies*; so that, as usually discussed, it is more an applied mathematics than a speculative. Nevertheless, the distinction exists; and it is only under the aspect of their *essential nature* that the laws either of form or of motion can have any place in the *science* of mathematics; moreover, the so-called "laws" of heat and light, and so on, are only specific cases of universal laws of uniform or accelerated motion. It is the more remarkable that Comte should insist upon confounding these two aspects of mathematical law, as he has elsewhere clearly discriminated between a science and its application,* and as it must be on the ground of such a distinction that he refuses a place in his scheme—as he does—to Optics, to Acoustics, and above all to Astronomy, which, in its phase of Celestial Mechanics, is assuredly the crowning glory of applied mathematics. On the other hand, had he held consistently to the distinction between science and its application, Applied Mechanics and Thermology would have fallen into their proper place in line with Astronomy, Optics, and Acoustics; and the prospectively endless succession of coördinate branches would have been a legitimate result; for, as Bacon† long ago remarked, "The greater increase Physics receives, and the more new principles it develops, the more will Mathematics be called into new applications, and the more numerous will the *Mixed Mathematics* become."

There is one other point in Comte's treatment of his "Concrete" subdivision which seems to me defective: I mean his discrimination between Pure and Analytic Geometry as "Special" and "General." After very justly criticising the

* *Cours de Philosophie Positive*, tome 1, p. 345.

† *De Aug. Scient.*, lib. iii., cap. 6.

common practice of calling the former *Synthetic* and the latter *Analytic*, he puts his own distinction upon the following ground:—The ancient Geometry can discuss no problem of form or dimension except by taking up all the different figures, rectilinear and curvilinear, one by one, and obtaining a separate solution for each order of figure, triangle, circle, conic, spiral, or whatever else it may be, the *method* of solution having to be invented *new* for every new figure taken up; whereas, in the Geometry of Descartes, problems of contact, of curvature, of asymptotic approach, of singularity in flexure, of the length of the subtangent and subnormal, of rectification, of quadrature, of cubature, are solved in formulæ of absolute generality, which apply to all figures alike. Now this statement, which the mathematical reader will at once recognize as entirely correct, seems at first sight to justify Comte's nomenclature completely; but a closer examination will convince us that it cannot serve to separate Geometry into its scientific provinces, inasmuch as it after all misses the point of *characteristic* difference between Analytic Geometry and Pure. The *method* of Analytic Geometry is undoubtedly more general than that of Pure Geometry; but so is the method of Algebra more general than that of Arithmetic; and yet, as Comte himself has noticed,* it would now be a grave error to define Algebra, with Newton, as a *Universal Arithmetic*, thus setting up Arithmetic as the Special Calculus, and Algebra as the General Calculus. The truth is, that having set out to find the departments of mathematics according to their *object-matter*, it is a formal blunder to introduce a new principle of division, and distinguish between the *methods* according to which a given object-matter is discussed. On the contrary, to raise the so-called Pure and Analytic geometries into sub-departments of Geometry-in-general, we must show that they deal with distinct provinces of its whole object-matter; and, more specifically, admitting that its whole object-matter is *the functional laws which connect the several parts of figures with each other*, we must show that Pure Geometry deals with one class, or else rank, of those functional laws, and Analytic Geometry with another. For this exposi-

* *Cours de Philosophie Positive*, tome 1. p. 177.

tion, we are not ready at this stage of our discussion; but, at a later one, it will appear that Pure Geometry deals with those functional laws which determine *magnitude*, and Analytic Geometry with those which determine *form*.

Passing over, now, to Comte's treatment of the Computative side of mathematics, the chief matter for criticism is his mode of distinguishing the Higher Calculus from the Lower. By defining the former as the *Calculus of Indirect Functions*, and the latter as the *Calculus of Direct Functions*, he grounds his distinction not on the nature of functions as such, but on that of the phenomena in whose "laws" he supposes the functions to originate: for by a *direct* function he means* a quantifying law connecting the parts of phenomena themselves; and by an *indirect* one, a law connecting not the parts of the primary phenomena, but certain auxiliary quantities, united with the primaries by uniform laws of derivation, and substituted for them because *their* laws are too complex to be put into equations directly. Now this mode of distinction, which at first sight seems to gain support from Lagrange's great generic insight of regarding the auxiliary infinitesimals of the Higher Calculus as algebraic DERIVATIVES of the primary functions, has in it, beyond question, this superficial plausibility: it does appear to lift the mind contemplating the "differentials," which play so essential a part in the Higher Calculus, into a field of view which surprises by its unexpected and apparently endless extent; for we seem to see these obscure analytical elements suddenly shining in the wide horizon of the conception of "*auxiliary quantities derivable from their primitives according to any law whatever*," and the present Calculus of Differentials, vast as we thought its generality when compared with ordinary Algebra, appears in the yet grander rôle of one specific method out of an infinite system of possible methods for deriving auxiliary functions. It must be observed, however, that all this splendor of generality is due to Lagrange's conception that differentials are DERIVATIVES, and not to Comte's transcription of that great theme into the notion of Indirection; so that it has nothing to do with viewing differentials as capable of simpler

* *Cours de Philosophie Positive*, tome 1, pp. 189, 194.

relations than the primitive phenomena, except in so far as this notion of "Indirect Functions" borrows the idea of derivation itself. In fact, the formation of functional relations between differentials on the ground of their superior simplicity, belongs not to the *theory* of the Higher Calculus, but to certain of its *applications*; for instance, to rectifications, quadratures, cubatures, and the determination of maxima and minima; in which we certainly do establish some very obvious differential equations for the express purpose of passing from them to integral equations we could not readily obtain by considering the integrals themselves. It is not the procedure of science, however, to define a theory by its applications, particularly by a portion of them. But, above all, this resting the distinction between the two departments of analysis upon the difference-in-complexity of the phenomena to which they are applied, to say nothing of its resemblance to the boy's subdivision of Arithmetic into "*Arithmetic with Easy Sums*" and "*Arithmetic with Hard Sums*," is unscientific because it carries over considerations from Comte's "concrete" field to subdivide his "abstract" one; whereas, if the latter is a real province of mathematics (and, in so far as it is characterized by the idea of *computation*, it certainly *is* a real province), it ought to subdivide *itself*, and *by principles involved in its own idea*. In short, if Analysis *is* the Calculus of Functions, and if there *is* a difference in object-matter between the Lower Calculus and the Higher, that difference must be sought in the nature of the *different orders of computation* which are employed in the two.

And, at this juncture, the root of Comte's inaccuracy comes plainly to the surface: his error grows naturally out of a vagueness in his conception of Analysis itself, and a consequent confusion in his view of the relations between Algebra and Arithmetic. At first, he correctly ranks Arithmetic and Algebra (using this term, in its widest sense, as equivalent to *Analysis*) as the two coördinate branches of the general Calculus (or Science of Computation), defining the former as the *Calculus of Values*, and the latter as the *Calculus of Functions*. But this inexact characterization of General Algebra presently leads him to bring back Arithmetic (which he sees may also be regarded as a calculus of functions) into the prov-

ince of this same Analysis; and he ends at last with the singular contradiction of coördinating Arithmetic with Algebra taken in its ordinary and very restricted sense of a *method for solving equations*, presenting the two as subdivisions of his "Ordinary Analysis" as distinguished from his "Transcendental." This confusion is heightened by the fact that he had, at the outset, in a single passage,* undertaken to explain his phrase *Calculus of Functions* by defining General Algebra as the science having for its object "the transformation of *implicit* functions into equivalent *explicit* ones": a definition which, so far from reaching the comprehension of Algebra as inclusive of all Analysis, is in fact the exact description of *ordinary* Algebra; that is, of the Lower Calculus as distinguished from the Higher. But had he held to the road which leads logically from his starting-point, he would have continued to coördinate Arithmetic with Algebra in its most extended sense; he would thus have recognized that the computation of functions involves their *transformation* and their *evaluation*, and might have defined General Algebra (or Analysis) as the *Calculus of the FORMS of Functions*, and Arithmetic as the *Calculus of the VALUES of Functions*. And having thus arrived at *transformation* as the essence of all analysis, his path would have been clear to a real discrimination between the Lower and the Higher Calculus, on the ground that they involve two distinct *orders of transformation*.

I need not more than advert to the additional fact, that this confusion as to the nature of General Algebra accounts for Comte's imperfect elucidation of the relation borne by the Calculus of Variations to the rest of the science. Lacking the conception of Analysis as a general method of transformations, he contrasts the Calculus of Variations with the ordinary Integral Calculus; or, rather, treats it as a modified form of that Calculus; whereas, in the light of the idea that functions are *laws* or *forms* of derivation, it ought to be contrasted with the whole calculus of which the Differential and the Integral are the branches, and defined as the *Higher Calculus of VARIABLE Functions*, while they in their correla-

* *Cours de Philosophie Positive*, tome 1, p. 187.

tion are defined as the *Higher Calculus of CONSTANT Functions*.

With these considerations, we may now leave the labors of Comte, and pass on to essay the actual construction of the System of Mathematics, as it evolves itself in the general procedure of Intelligence.

III.—CONSTRUCTIVE.

We start, then, with the truism that mathematics is a *form of intelligence*; and it is our first business to find the definition of it, by discovering what it is that intelligence is there endeavoring to do.*

And, without venturing to attempt the definition of QUANTITY, let us avail ourselves of our familiarity with that concept as an inseparable factor in all our intelligence; let us also take advantage of our experience concerning the use of mathematics; and we shall be warranted in the provisional statement that *mathematics is that form of intelligence in which we bring the objects of the phenomenal world under the control of the conception of quantity*.

This is vague enough, to be sure; and, were we to stop at this, we should have no real definition. But it is the beginning, from a point commanding universal assent; and, even in this its empty abstractness, it has this immediate advantage:—we see at once that the System of Mathematics must subdivide itself as *Science* and as *Art*; since, as form of intelligence, it must be science, and, as applied to the phenomenal world, it must be art. We thus take a long step toward clearing up the confusion of its multitudinous branches, by resolving the whole into two grand divisions of SPECULATIVE and APPLIED mathematics.

Thus, under the head of Applied Mathematics (the relation among whose subdivisions is determined immediately by the nature of the phenomena with which they deal, and therefore calls for no dialectic), we at once dispose of the greater part

* In thus setting out to fix the system of mathematics by its *motive*, we only obey the controlling principle of all the sciences; since they all, as forms, or *phases*, of intelligence, must have their *raison d'être* in the aims of intelligence—except, indeed, the Objective Logic, which, as the Science of Intelligence itself, is its own *raison d'être*.

of the long list with which we perplexed ourselves near the opening of this article. We may remove, then, as requiring no further discussion: Astronomy, with its subdivisions, Celestial Mechanics and the Calculus of Observations; Surveying—Geodesic, Topographic and Mensurative; Navigation—Celestial-spherical and Plane; Acoustics; Optics; Thermodynamics; Molecular Mechanics; Physico-Mechanics, branching into Statics and Dynamics, Hydrostatics and Hydrodynamics; and Practical Mechanics, including Architecture (with its subsidiary art of Stereotomy) and Engineering in its various branches, Civil, Military, Naval, and Mechanical; not forgetting that these last involve the mathematical principles of Mining, Bridging, Road-building, Fortification, Gunnery, Ship-modelling and Armoring, and of all the parts of Mill-work, whether motors or machines. Any further grouping or defining which these branches may call for, in order to render clear their mutual relations, will sufficiently appear in the tabulated scheme at the close of this article; so that the sketch of this grand division of mathematics may be completed by merely recalling the fact (noticed on a preceding page), that the number of its subdivisions is potentially unlimited, and will continue to increase with man's increasing knowledge of the natural world.

Turning now to Speculative Mathematics, we have in this side of our subject the essence of our whole problem of classification; for the comprehension of a form of intelligence as *science*, is the necessary and sufficient condition of its definition and subdivision. If, then, we can reach the comprehension of Speculative Mathematics—that is, if we can trace in *that* the exact procedure which intelligence makes under its ruling concept Quantity—we shall be able to replace the emptiness of our provisional description by a full and living definition. Let us, then, attempt the exposition of the mind's continuous descent from the concept of Quantity to a science of Mathematics.

A. *Process of finding the Thought-Constituents of Mathematics.*

SPACE and TIME—these are the logical *sine quâ non*—the necessary thought-element—of all phenomenal existences; just as the air is the indispensable matter-element of our

vital existence. Into these as such thought-element, therefore, must intelligence project its concept Quantity, when it seeks to dissolve the phenomenal world by means of that. But Space and Time react upon the projected concept, so that it is itself dissolved; only to rise, however, into a threefold power for intelligence, as Extension, Motion, and Number; for these three "modes" of quantity are simply the thought-phases into which it breaks up under the reaction of Space and Time. Quantity projected into Space considered aloof from Time, is *magnitude*; projected into Time considered aloof from Space, it is *duration*; and these two abstractions disappear in the wider one of EXTENSION, which may therefore be defined as *Quantity projected upon the abstract severance of Space from Time*. But if we let go of our abstraction, and consider Space and Time in their *real* aspect of *coëxistence*, the concepts magnitude and duration flow-together and annul-each-other in the idea of MOTION, which we may accordingly define as *Quantity projected upon the concrete interflow of Space and Time*. Extension and Motion, however, only present Space and Time in their phase of *infinite continuity*,—a thought with which the Conceptive Understanding is entirely unable to cope. To that side of intelligence, nothing but the *finite*—the *externally* limited—is comprehensible; and yet, since it is a side of intelligence, its protest against Quantity as pure Continuity must have a hearing. Thus, when this Conceptive Understanding "sinks exhausted" before the thought of unbeginning and unending extension, or of unarising and unceasing motion, and is on the point of rejecting both as meaningless abstractions, the Thinking Reason comes to its rescue: it negates the continuity of Space, and posits the *point*; it negates the continuity of Time, and posits the *instant*; in the infinite of Space, it finds a *Here* and a *There*; in the infinite of Time, a *Then*, a *Now*, and a *Hereafter*. Between these, as limits, the whole mystery of Extension is resolved for the Understanding into a *limited extent* on the one hand, or a *period elapsed* on the other; the whole mystery of Motion, into a *distance traversed in a given time*. Thus Quantity descends into finite terms; and, what is more to the purpose, in doing so passes to its final and most intelligible phase. For when in Infinite Continuity we set up

limits, then, in so far as it is Extension, its unity breaks up into *multitude*; and, in so far as it is Motion, it breaks up into *succession*; but the union of these two constitutes the idea of NUMBER, which may consequently be defined as *Quantity projected upon the annulled-continuity of Space and Time*.

Such is the genesis of Extension, Motion, and Number,—the three elements of thought in whose correlation, as we shall presently see, mathematics finds at once its occasion and the ground of its method.

11. *Construction of the Fundamental Problem of Mathematics.*

NUMBER, from the manner of its logical origin, as that has just been unfolded, is seen to be the triumph of the Conceptive Understanding over the primordial chaos of Space and Time; or, more truly, the reconciliation of the Understanding, which can comprehend nothing but finites, to the infinite continuity of Quantity as seized by the Reason in pure Extension or Motion. It is the instrument for completely simplifying these less determinate phases of Quantity, from which the Understanding naturally revolts as from a bewildering mystery; for, as Number arises out of dissolving Extension and Motion into successive *parts*, it becomes at once their interpreter to the understanding, by presenting all *periods elapsed*, all *limited extents*, and all *distances traversed in given times*, as aggregates of equal parts as small as we please and therefore as easily conceivable. Hence there arises in the mind a persistent tendency to convert all forms of Extension and Motion into Number; and the three are so correlated that this tendency is readily satisfied, and becomes the occasion of that systematic contrivance for effecting this conversion which we call mathematics. Thus it appears that the Fundamental Problem of that science, stated in its universal form, is this: *To pass at will from the mental province of Extension or of Motion to that of Number*.

The general, abstract solution of this problem is exceedingly simple, being in fact given in the very process by which Number arises: we have only to resort to the easy expedient of comparing Extension or Motion with any one of their equal parts, and then considering the "ratio" of the whole to this

arbitrary unit. And here, in our universal language, "measurement" translates itself into "converting extension or motion into number": we see what "measurement" logically is, and why it is the problem *par excellence* of mathematics. It remains to discover why it must be solved by "indirection"; that is, by deriving the numerical equivalents of extensions or motions through a complex *system* of relations, instead of by directly applying the unit-part to the measurable whole.

c. *Origin of System in the Procedure of Mathematics.*

The path which leads us to the discovery last mentioned is not long; we perceive, indeed, with but brief reflection, that Space and Time baffle the attempt to apply the expedient of the direct unit as easily as they repel that of bringing their pure continuity within the comprehension of the imagination. In fact, it is the persistence of that infinite continuity, despite its apparent cancellation by arbitrary limits, which effectually annuls the petty device of our measuring unit: in the infinite possibilities of Space and Time, extents, durations, and motions run on forever, and pass beyond our reach when we attempt to lay our measure upon them. Could we actually annul Time, we might actually measure Space by following its successive extensions; could we actually annul Space, we might follow out the successive epochs of Time; but, fortunately, we can really do neither: the two elements *coëxist* in the real world—the actual application of the unit to the whole is, as a universal or even general procedure, an impossibility, and we are forced to abandon this conceptual method and take refuge in the mightier powers of the systematizing Reason. For though Space and Time baffle us when we attack them from the side of our finite existence, they yield at once when we bring against them the idea of Self-Relation. Self-related points we can posit in space; self-related instants, in Time; and out of these arise, on the one hand, Form and Figured Extension, and Rate (or Velocity) of Motion, on the other. To determine the form, or figure, of an extension, is necessarily to determine the magnitude of all parts that can be set up within or about it in accordance with given conditions of position; to determine the rate of a movement, is necessarily to determine the distances traversed by

it in known times, or the times due to known distances. And if, armed with these new resources, we turn to the idea of Number, and observe *its* inseparable properties—how it exists in a ceaseless flow and re-flow; how we can count forward by unity from zero to any number conceivable, or backward by unity from any number to zero again (*addition* and *subtraction*); how, by seizing as unity any number of units, we can sweep by this greater stride to any desired other number (*multiplication*); how, by reversing this process, we can lessen as much as we please the number of backward steps from any number to the original zero (*division*); how we can count any number, taken as unit, as many times as there are units in itself, repeating this as often as we please, (*involution*); how, finally, we can undo *this* process as well as the simpler ones (*evolution*)—we see that all these so-called “operations” of addition, subtraction, multiplication, division, involution, and evolution, also result from the idea of Self-Relation*; the mutual adaptation of the processes of Number, and the interdependences of Figured Extension or Rated Motion, present themselves clearly to our anticipation; so that we return again to the provinces of Form and Movement, in the conviction that the magnitudes of the parts of figures, and the quanta of the constituents of motions, are connected with each other by discoverable *numerical laws*; in other words, that these magnitudes, and these quanta of motion, *grow out of each other at rates expressible by the very “operations” constituting the essential properties of numbers.* And this anticipative conviction the contents of Mechanics and Geometry completely confirm; for all the theorems of Motion and of Figure are, either directly or indirectly, just such statements of the numerical combinations that have to be made of constituent motion-elements or magnitudes, in order to produce certain derivative motion-elements or magnitudes. Thus it is that the mind, seeking to solve the problem of converting Extension and Motion into Number, finds itself possessed of a vast and coherent *system* for effecting the solu-

* Numeration is possible only by this :—that the One, going-out-of-itself into the Many, shall again return-into-itself as the One (of Quality) which brings the Many into being Successive Units: we cannot count the *mere* Many. Thus, the properties of Number arise out of the system of the Self-related Unity.

tion,—a system of *laws connecting change with change*,*—a system for *deriving* values from given ones of any nature by the very modes of combination which constitute the *laws* of Number itself, and by which numbers are themselves derived from each other.

D. *Definition of Mathematics considered as Science.*

We have now reached the point from which the definition of mathematics, in its aspect of science, comes clearly into view. It may be stated as follows:

Mathematics is the science of converting Figured Extension and Rated Motion into Number, in accordance with the system of numerical laws which connect the parts of figures and the elements of motions with one another.

Or, inasmuch as these numerical laws of mutual dependence constitute the mentioned parts and elements *functions* of each other, we may state the definition more concisely as follows:

Mathematics is the science of the functional laws and transformations which enable us to convert Figured Extension and Rated Motion into Number.

E. *Subdivision of the Science, and Coördination of its Parts.*

The science which actually succeeds in passing over from Extension and Motion to specific Number, and that, too, by means of a System of Functions, will of course involve two grand movements: the investigation of the numerical laws which connect the parts of figures and the constituents of motions with each other; and the working out, from the relations given by these laws, of the actual numerical values of the magnitudes or motion-elements sought. Thus the entire field of mathematics divides itself into two main provinces: the one, a Body of Doctrine concerning the numerical combinations which have to be made of given parts of figures, or given parts in a moving system, in order to obtain required parts; the other, a Theory of Operations by which the doctrines of the first may be represented, transformed, and finally

* Sir W. R. Hamilton, in preface to his *Algebra as the Science of Pure Time*! See the *Transactions of the Royal Irish Academy*, vol. xvii.

evaluated by means of the processes which we call the essential properties of Number. It is our business, in the first, to *create* the System of Functions; in the second, to *transform* and *evaluate* its members when created. In short, mathematics consists of (I.) a MATHESIS, and (II.) a CALCULUS.

I. The MATHESIS of mathematics, again, has two subordinate provinces, *Geometry* and *Mechanics*, depending on whether the functions created are laws connecting the parts of *Figures*, or the constituents of *Movements*. And these two* are *all*, whether actual or possible; inasmuch as, excluding Number, Extension and Motion exhaust the possible modes in which Space and Time can react upon Quantity, as has already appeared at an earlier stage of the present discussion.

1. If we define *Geometry* as the *Science of Figure*, or, more exactly, as the *science whose object is to determine what numerical combinations connect the parts of figures with each other*, we shall not advance far in the detail of verifying the definition by the actual content of the science, without noticing that the theorems of Pure Geometry present two quite distinct classes: by far the greater part of them certainly do connect *magnitudes* by numerical relations which enable us to find one when others are given; but another part, at least equally striking, if much less numerous, seem to be altogether concerned with relations of *position*, that is, with *form*: such are the theorems that *Any three points are always in the same plane*; that *Any three points, not in a straight line, are on the circumference of a fixed circle*; that *A point whose distances from a fixed point and a fixed straight line are in a constant ratio is on the periphery of a conic*; etc. In pure geometry, these do not seem to express relations of magni-

* Should the curious reader here ask—What has become of *Duration*, that only *Magnitude*, as befunctioned by Figure, is taken to cover the whole science of Extension?—I reply that the quantification of Time is so simple as to make no science, its whole mathesis consisting in the law which connects a *period elapsed* with its limiting *dates*. Thus, its sole function is $P = D - D'$; whence, $D = D' + P$; or, $D' = D - P$.

I submit this answer with reserve, however; remembering that the illustrious HAMILTON has attempted the construction of a *Science of Pure Time*, and its absolute identification with the whole of *Algebra*, taken in the widest sense. See the *Transac. Royal Irish Acad.*, vol. xvii.

tude, nor to yield any functions by which magnitudes can be calculated. But, on the one hand, they always appear in that branch of geometry as *subsidiary steps*, leading to the proof of other theorems which *are* functional, and this seems to be their only scientific relation in that branch; while, on the other hand, the distinction which they suggest between *theorems of dimension* and *theorems of form* has the most essential significance in settling the real difference between the Ancient Geometry and that of Descartes. For, in truth, it may be said that the so-called Pure Geometry is unable to reduce the conception of Form to the functional relation; that its principles and methods are only adequate to the task of befunctioning magnitudes by boldly taking Form for granted; and that the solution of the more general problem, of expressing Form itself in the idea of a function, is only reached in Analytic Geometry, where, by the simple but universally-sweeping "Convention of Coördinates," the Form of every conceivable curve or surface is brought within the conception of a relation between magnitudes, and accordingly represented by an equation. And thus we learn that Geometry in General breaks up into two sub-sciences—*Pure Geometry*, whose functions are those of *Magnitude* merely; and *Analytic Geometry*, whose functions are functions of Form.

Within the province of Pure Geometry we have the subordinate one of *Trigonometry*, in which the theory of the functional character of geometric relations is simply carried out to the last detail in respect to the calculations of the parts of a triangle. But closely allied to this Functional Pure-Geometry, there exists another, antagonistic in idea, whose aim is to carry geometry out of relation to the computative side of mathematics, and set it up as a self-contained science. I refer to what may be called *Constructive Geometry*, with its subdivisions, *Graphics* and *Descriptive Geometry*. The object of these is, to determine by a proportional diagram, whose unit is taken at will, the total linear or superficial value of a required part of a plane figure or a solid, without calling in the aid of any calculation whatever—the required part being taken directly from the drawing (which has been carefully constructed to express the determining conditions), and compared with a standard physical unit. This method has certain ad-

vantages, being sometimes rapid as compared with calculation, and is to a certain extent exceedingly useful, as in carpentry and stone-cutting; but it is inaccurate, from the necessary imperfection of drawing-instruments, and is limited to a comparatively small number of theorems. The method of *Graphics*—which is the constructive solution of *plane* problems—may be described as *direct*: by it, the required part *itself* is drawn and measured; *e. g.*, the line which forms a geometric mean between two given ones; or, the square equal to the sum of any number of given squares. The method of *Descriptive Geometry*, on the contrary, is *indirect*: its object is the construction of the parts of *solid* figures, which cannot be directly drawn on a flat surface: hence the brilliant invention of MONGE, by which we substitute, for the parts of figures themselves, their *projections* (or *shadows cast from an infinite distance*) upon auxiliary planes; these projections once constructed according to a systematic method which Monge has developed, we readily pass from their dimensions to those of the actual figures, with which they are connected by a uniform and very simple functional law.*

The system of *Graphics* presents itself in three stages:—*Lineal Geometry*, the comparatively recent invention of LAMBERT, in which the constructions are effected with the help of the ruler alone; *Geometric Construction* technically so-called, in which we employ only the ruler and compasses; and *Mechanical Construction*, in which curves of higher orders than the circle are employed, and are generated by means of special instruments which embody some one of their defining properties.

2. The term *Mechanics*, as used to designate the second province of the Mathesis, must be understood as strictly confined to the necessary *a priori* laws of motion and moving systems, and as therefore excluding the vast body of physical considerations and contingent conditions which constitute so large a part of *Mechanics* as ordinarily understood; indeed,

* The careful reader can hardly fail to notice that the above description of the bearing of *Graphics* and *Descriptive Geometry* upon the whole science, is essentially the same as Comte's. Comte, indeed, appears to me to have seized the exact philosophy of this particular episode in his subject, and his treatment of it seems the happiest he has reached.

it might be well to replace it by the term *Kinematics*, were this not so novel and awkward in sound that the mathematical public does not seem to take to it kindly; it is an objection, too, that the new title seems to shut out the consideration of forces in equilibrium. And, in fact, we shall better define Mechanics as the *Science of Force* than as the science of Motion; because, in order to cover systems of motion with entire generality, and so include the system in equilibrium, we must seize Motion as *potential* rather than *actual*, that is, as Force.

The well-known subdivisions of Mechanics—Statics and Dynamics—are thus provided for. In the former, we investigate the laws of Equilibrium, which pass into the functional form by the process of resolving forces into their components; in the latter, the laws of actualized Motion, whether simple or systematic.

II. Crossing now to the CALCULUS, or the computative side of mathematics, it is plain that here, too, there is a great two-fold division: assuming that the Mathesis furnishes to our hand the numerical laws which connect required values with given ones, these laws must be expressed in proper symbols—in a word, they must have a convenient *algorithm*—and, when so expressed, the resulting equations (for a numerical law cannot be expressed except in an equation) may require transformation of different orders before they become available for the actual calculation of the values required; finally, when they *are* so transformed, the fundamental processes of number must be applied to them, and the required value thus actually found. Hence the Calculus breaks up into (1) the *Transformation of Functions*, and (2) the *Evaluation of Functions*.

For, defining a function as a *number derived from others by certain numerical combinations, so that its value varies with theirs*, we must distinguish between its *value* and what may aptly be called its *form*. By its *value*, is meant its *place in the general scale of numbers*, or the *result* of the operations by which it is derived from its primitives; by its *form*, the *series of operations themselves* by which it *is* derived. Thus, in the familiar equation $y = \sqrt{2rx - x^2}$, which connects

the length of the perpendicular dropped from the circumference upon the diameter with that of the two segments into which it divides the latter, the *value* of the function y is the number for which y stands; while its *form* consists in the operations by which that number is derived from the number x , namely, multiplying x by the diameter $2r$, subtracting the square of x from the product, and extracting the square-root of the remainder.

In view of this distinction, then, we may define *Arithmetic* as the *Science of the Evaluation of Functions*; and to the *Science of the Transformation of Functions* we may, in accordance with the uniform usage of such philosophic mathematicians as LAGRANGE and HAMILTON, give the name of *Algebra*.*

1. Of *Arithmetic* it needs only to remark, that this branch includes the general Theory of Numbers, and the methods of rapidly combining, in the so-called "fundamental operations," the essential properties developed by that.

2. To render clear the grounds for subdividing *Algebra* into a Lower and a Higher Calculus, we must distinguish between the two states, *implicit* and *explicit*, in which the form of a function may exist, and the two classes, *commensurable* and *incommensurable*, into which the profoundest analysis finally resolves numbers. For, on the one hand, a function as brought to us from the Mathesis may be mixed up in various terms of the equation which connects it with its primitives, and then its form is only *implicit*; or it may stand alone and clear in the first member of the equation, while its primitives in their due combination make up the second, and then its form is *explicit*. And, on the other, just as numbers are primarily conceived as parted from each other by a constant finite interval called *unity*, and are in general simply exact integral or fractional multiples of that, while yet we everywhere find numbers, like 2 and 3, whose *ratio* (or *relative complex*) of this unity we can never find, but can only approximate endlessly; so, in attempting to reduce Extension or Motion to Number, by the aid of an arbitrary unit of their own species, we may

* Lagrange, *Leçons sur le Calcul des Fonctions*, leçon 1; Hamilton, *Algebra as the Science of Pure Time*, Transac. Royal Irish Acad., vol. xvii.

and often do come upon quantities that result only in these *incommensurable* numbers; *e. g.*, the ratio of the circumference of a circle to the diameter. The secret of such numbers seems to be, that, from the very nature of Number in general, there is no limit to the smallness of the "unit," and these incommensurables simply push the mind back again upon that *continuity* for whose cancellation the Understanding so eagerly seized upon the contrivance of the "unit," but which persists through all as the essential principle of quantity itself. Since, then, the comparison of the parts of Extension and Motion must inevitably lead to functions expressible only in terms of incommensurables, it becomes an essential to the perfection of the calculus that we shall be able to transform such relations between incommensurables into corresponding ones between commensurable, or ordinary discrete numbers. Moreover, as in comparing two incommensurable magnitudes, such as the diameter and the circumference, we endlessly approach the true ratio as we go farther and farther on in the process of measuring the greater by the less, the less by the remainder, the remainder by the new remainder, and so on; we see that the logical unit of this tantalizing ratio is an evasive, endlessly diminishing unit—an *infinitely small element* of the magnitudes compared—in a word, a *differential*. Hence, the added necessity that our calculus should enable us to pass readily from finite quantities to these their infinitesimal elements.

In receiving, then, a function to be transformed, it may either be our object to devise a method of passing at will from the implicit to the explicit state of its form, in order directly to evaluate it; or, to discover a general method of passing from finite functions to their infinitely small elements, and reciprocally, in order to sweep the case of treating commensurable relations into the more generic one of treating incommensurable; in short, our object may be either to find the exact *discrete* numerical law which constitutes the *form* of our function, or the *continuous* numerical law which constitutes the *element-form* of the function; and thus the whole calculus does break up into a Lower and a Higher; the former having for its object that order of transformations which ends in making the function *explicit* indeed, but leaves the *law* of

the form unchanged; and the latter, that order which enables us to interchange the *form* and its *element-form*, passing in general from one law of derivation to another entirely different and more manageable.*

We thus define the Lower Calculus (*Ordinary Algebra*) as the *Calculus of Equivalent Forms*, whose object is to interchange the implicit and explicit state of a function; and the Higher Calculus as the *Calculus of Element-Forms*, whose object is to interchange the finite and infinitesimal form of a function. But this transcendental transformation may take place upon two conditions regarding the finite form: either this may be regarded as *constant*, or it may be viewed as *variable*—undergoing a perpetual and continuous change, our problem being to determine what constant form it must assume in order to satisfy certain conditions. And this last distinction points out, in the most generic way, the difference between the Differential and Integral Calculus on the one hand, and the Calculus of Variations on the other. So that we define the Differential and Integral Calculus as the *Higher Calculus of Constant Forms*, and the Calculus of Variations as the *Calculus of Variable Forms*.

The details of this scheme are recapitulated in the table annexed. I hope that it covers the ground with entire generality. That the New Geometry, the Modern Algebra, and the Quaternion, have no distinct place in it, is simply because, as it thus far seems to me, they are but modifications of the same general ideas for which the scheme already provides. Certainly the New Geometry has no logical ground distinct from that of the old—it is merely a group of new and remarkable theorems, some of which have such a sweeping generality as to become the fruitful sources of a *method* of demonstration. Likewise, the Modern Algebra is merely a modification—on a higher plane, to be sure—of the ideas constituting our ordinary algebra: it is a contrivance for the more rapid passage from the implicit to the explicit in complicated cases.

* Thus, the ratio of the semi-circumference to the diameter being incommensurable, we cannot express the one as a finite function of the other. But the *differential* of the semi-circumference is a finite function of the *differential* of the diameter, and its form is the very simple one, $ds = dx \left\{ \frac{r^2}{2rx - x^2} \right\}^{\frac{1}{2}}$

And the Quaternion itself, so far as I can at present judge of its logical character, is also within the scope of the wide conception of Algebra as the Science of Transforming Functions: it appears to differ from the present Algebra in what its algorithm connotes—as it represents not merely magnitude (as does the present Algebra), but magnitude, direction, and position at once.

I ought not to close this article without alluding to the points which it still leaves as desiderata. It proceeds upon an assumption that our familiarity with the concept Quantity may be taken for granted; and so, also, of the notions of Space and Time. A perfect dialectic of the subject would have cleared up this obscurity, and shown us the precise logical nature of these thought-elements: this work awaits execution, unless we accept the proffered dialectic of Hegel. I am obliged to acknowledge that I have not yet been able to see that we must do so.

**MATHEMATICS, THE FORM OF INTELLIGENCE IN WHICH WE SEEK
TO BRING PHENOMENA UNDER THE CATEGORY OF NUMBER,**

MAY BE SUBDIVIDED INTO

A. SPECULATIVE=the Science of the Functional Laws by which to convert Figure and Force into Number.

I. THE MATHESIS=the Science which *creates* Functions, by establishing the Laws of Derivation.

1. *Geometry*=the Science of Figure:

A. Computative, in which the Derivation of Quantities is left to be effected by *Calculation*.

a. Pure Geometry = the Befunctioning of *Magnitude*.

b. Analytic Geometry = the Befunctioning of *Form*.

B. Constructive, in which Derivation is effected by *Proportional Drawing*.

a. Graphics = Constructive Geometry of Plane Figures; or, *Direct Constructive Geometry*.

α. Lineal Geometry, which employs the Ruler only.

β. Geometric Construction, which employs the Ruler and Compasses.

γ. Mechanical Construction, which employs the Instruments generating Higher Curves.

b. Descriptive Geometry = Constructive Geometry of Solid Figures; or, *Indirect Constructive Geometry*.

2. *Mechanics* = the Science of Force:

A. Statics = the Science of *Equilibrium*.

B. Dynamics = the Science of *Motion*.

1. **Algebra** = the Science of the *Transformation* of Functions:
 - A. Lower Calculus (*Common Algebra*) = Calculus of *Equivalent Forms*, whose object is to pass from the *Implicit* to the *Explicit* state of a Form.
 - B. Higher Calculus = Calculus of *Element-Forms*, whose object is to interchange Finite and Infinitesimal Forms.
 - a. Differential and Integral Calculus = Higher Calculus of *Constant* Forms.
 - b. Calculus of Variations = Higher Calculus of *Variable* Forms.
2. **Arithmetic** = the Science of the *Evaluation* of Functions :
 - A. Theory of Numbers.
 - B. Theory of Operations.

1. *Celestial Mechanics.*
2. *Calculus of Observations.*

1. *Geodesic.*
2. *Topographical.*
3. *Mensurative.*

1. *Celesto-Spherical* (Nautical Astronomy).
2. *Plane* (Sailing by Dead Reckoning).

1. *Acoustics.*
2. *Optics.*
3. *Thermodynamics.*
4. *Molecular Mechanics.*
5. *Physico-Mechanics :*
 - A. Theoretical — of Rigids = Statics and Dynamics.
— of Fluids = Hydrostatics and Hydrodynamics.
 - B. Practical:
 - a. Architecture, with the subsidiary art of Stereotomy.
 - b. Engineering.
 - α. Civil—Mining, Road-Building, Bridging.
 - β. Military—Fortification, Gunnery.
 - γ. Naval—Ship-modelling, Armoring.
 - δ. Mechanical—Calculations for Machinery and Motors.

THE PHILOSOPHY OF ARISTOTLE.

Translated from the German of G. W. F. HEGEL.

II.—THE METAPHYSICS.

The speculative idea of Aristotle is to be gathered principally from the books of The Metaphysics, the main source being the last chapter of the 12th Book (*A*), which treats of divine thinking. But this work has, as we have before mentioned, a quite peculiar difficulty in its composition: several writings have been pieced together, and this work is the result. Aristotle and the ancients do not know this work at all under the present name of Metaphysics, but they call it *Πρώτη Φιλοσοφία* [*Prima Philosophia*]. Or if the body of this work is one, as seems from the general connection,* at all events it cannot be said to be well arranged and clearly written. This pure philosophy is defined by Aristotle (Met. IV. 1 [or Book III. Bohn's tr.]) and carefully discriminated from the other sciences as "The Science of what exists, in so far as it exists [i. e. in its totality], and what pertains to it in-and-for-itself." To know scientifically the nature of this substance (*οὐσία*) is Aristotle's chief endeavor (Met. VII. 1, [Bohn VI.]) In this Ontology, or, as we call it, Logic, he investigates and defines accurately the four principles (Met. I. 3): first, the determinateness or QUALITY, as such, through which something is this, the ESSENCE or FORM; secondly, the MATTER; thirdly, the principle of MOTION; and fourthly, the principle of FINAL CAUSE or of THE GOOD. In the course of this work Aristotle refers frequently to the definition of these ideas; but in this work, as in others, all is arranged in a loose manner, although it is united to a genuine speculative insight.

Next we have two chief forms, which Aristotle defines as POTENTIALITY (*δύναμις*) and ACTUALITY (*ἐνέργεια*); afterwards still more definitely as ENTELECHY (*ἐντελέχεια*), or free activity which has its FINAL CAUSE (*τὸ τέλος*) in itself and is the realization of this final cause. These are determinations [defini-

* Professor C. L. Michelet, the editor of this work of Hegel, has discussed these questions fully in his work, "*Examen critique de l'ouvrage d'Aristote, intitulé Metaphysique.*"

tions or distinctions] that occur everywhere in Aristotle, and are discussed *in extenso* in the 9th Book of the Metaphysics [Book VIII. Bohn's tr.], and one must learn them in order to comprehend Aristotelian philosophy. The expression *δύναμις* in Aristotle is the natural capacity, the In-itself [potentiality], the objective; secondly, it is the abstract Universal as such, the idea; the matter which can assume all forms without being itself the formative principle. With such an empty abstraction as the "Thing in itself" Aristotle has nothing to do. The Energy [Actuality], or more concretely the Subjectivity, is the actualizing form, the negativity which relates to itself. When we, on the other hand, use the term "Essence," we do not posit [express] activity in it; but Essence is only the In-itself, only potentiality without infinite form ["infinite" means *self-related*]. The chief point in the definition of "substance" is, according to Aristotle, that it is to be distinguished from mere *matter* (Met. VII. 3); in common life matter passes ordinarily for what is substantial. Whatever exists, contains matter; all change implies a substrate (*ὑποκείμενον*); for the reason, however, that matter itself is only potentiality, and not the Actuality which belongs to the Form, the Activity of the form is essential to the matter in order that it [i. e. matter] may possess reality (Met. VIII. [VII.] 1-2). With Aristotle, therefore, *δύναμις* does not have the signification of Force at all (force is rather an imperfect phase of *Form*), but rather *capacity*—but not in the sense of undetermined possibility; *ἐνέργεια*, however, is the pure self-activity [spontaneity]. Through the entire middle ages these distinctions were considered very important. According to Aristotle, therefore, the essential absolute substance has potentiality and actuality, form and matter; these are not separate from each other, but the true Objective possesses also activity in itself, while the true Subjective has also potentiality.

From this exposition becomes clear the nature of the antithesis between the Platonic and Aristotelian Ideas. For, although the Idea in Plato is in itself essentially concrete and determined [definite], yet Aristotle goes further [in defining it]. In so far, namely, as the Idea is self-determined, the relation of its moments can be more definitely stated; and

this relation of moments to each other is to be apprehended as nothing else than Activity. With us it is easy to make understood what is meant by the defect [lack or onesidedness] of the Universal, i. e. the defect of that which is only *in-itself* [or potential]. The Universal has, since it is universal [merely general], as yet ["so far forth"] no actuality; for since the In-itself [potentiality] is inert, the activity of the process of actualization is not yet posited [or expressed] in it. Reason, laws, &c., are in this sense abstract; but the Rational as self-actualizing we recognize as necessary [or overruling power]: and therefore we do not lay much stress on such general laws. The Platonic standpoint expresses the essence more as the objective, the good, the final cause, the Universal in general; in this, however, there is lacking the principle of living [vital] Subjectivity as the moment of actuality; or, at least, this principle seems to remain fixed in the background, and in fact this negative principle is not expressed by Plato in so immediate a form, although it is contained essentially in his doctrine that defines the Absolute as the unity of opposites; for this unity is essentially *negative unity* of these opposites which cancels [annuls] their other-being, their opposition, and reduces them to self-relation. But Aristotle defines in a precise manner this negativity, this active process of actualization, as *Energy*: its nature is to cancel this unity and to dirempt [i. e. duplicate itself] this being-for-itself, and to posit the diremption; for, as Aristotle says (Met. VII. 13), "The Entelechy sunders." The Platonic idea, on the contrary, is rather that cancelling of the opposites wherein one of the opposites is itself the unity. While therefore, with Plato, the affirmative principle, the idea seized as the mere abstract self-identity, is taken for the highest; on the other hand, with Aristotle, the moment of negativity, not as change, nor as nothing, but as distinction [or difference], determination, is reached and brought into use by him. This principle of individualization, not in the sense of a contingent and merely special subjectivity, but of the pure subjectivity, is the peculiar doctrine of Aristotle. Aristotle, too, holds the Good taken as the universal end, to be the substantial principle, and holds it in opposition to Heraclitus and to the Eleatics. "The Becoming" of Heracli-

tus is a correct, essential determination; but the category of Change lacks the determination of identity with itself, the solidity of universality. The stream is perpetually changing; and yet it is perennial, and is still more than this, a universal existence. From this, then, it is clear that Aristotle contends (Met. IV. 3-6) particularly against Heraclitus and others when he says that being and non-being are not the same; and with this founds the well-known principle of contradiction [which is illustrated by the assertion] that a man is not a ship. It is evident that Aristotle does not intend to apply this remark to *pure* being or non-being, this abstraction which is essentially only the transition of the one into the other; but under that *which is*, he understands essentially *substance, idea, Reason*, but in the sense of an active final cause; while, on the one hand, he sets up the Universal against the principle of mere change, so too, on the other hand, he defends the principle of *activity* against the Pythagorean system of numbers and the Platonic system of ideas. Although Aristotle polemicizes against both in many places, yet the objections which he urges, all hinge on one point [already quoted by Hegel in speaking of Pythagoras]: The activity is not to be found in these principles; that "actual things participate in ideas" is an empty expression or a poetical metaphor. The ideas, as abstract universal determinatenesses, are according to number just as numerous as the things, but cannot for this reason be exhibited as their causes. Further contradictions are involved by assuming independent genera, because in Socrates, e. g., there are several ideas combined: man, biped, animal (Met. I. 7 & 9). Aristotle's category of "activity" is change, but a change posited within the Universal, change remaining self-identical; consequently a determining which is self-determining, and therefore the self-realizing, universal, FINAL CAUSE; in mere Change, on the contrary, [the conception of] self-preservation is not necessarily involved. This is the chief doctrine added to Philosophy by Aristotle.

Aristotle distinguishes manifold moments in substance, inasmuch as the moments of activity and potentiality manifest themselves not as united in one, but as separated. The full determination of this relation of energy to potentiality,

of form to matter, and the movement of this antithesis gives the different *forms of substance*. Here Aristotle goes through the list of substances; and they appear as a series of different kinds of substances which he takes up in succession rather than brings together into a system. The chief determinations are the following three moments:

a. The substance sensuously perceived is that which has a matter differing from its actual form. This substance is consequently finite; for the separation and externality of form and matter to each other constitutes precisely the nature of the Finite in general. The sensuous substance, says Aristotle (Met. XII. 2), contains change, but in the form of transition into its opposite. The opposites vanish in each other; the third, which preserves itself from this opposition, the permanent under this change, is the Matter. The chief categories of change which Aristotle names are the four distinctions; according to the What (*κατὰ τὸ τί*), Quality (*ποιόν*), Quantity (*ποσόν*), or the Where (*ποῦ*). The first change is the beginning or ceasing of the simple, definite essence (*κατὰ τόδε*). The second change is that of the properties (*κατὰ τὸ πᾶθος*); the third, increase and diminution; the fourth, movement. Matter is the dead substrate on which the changes that it suffers take place. "Change is from the *potential* to the *actual*; the potential white is changed into the actual white. So that things do not arise from nothing, by chance; but everything begins from something which is not actual but only potential." The "potential" means, therefore, the general In-itself-existent which produces these determinations without developing the one from the other. Matter is the simple potentiality, which however is self-opposed; so that something only becomes in actuality what its matter was in potentiality. There are, therefore, three moments posited: (1) Matter as the universal substrate of change, indifferent to the antithesis involved in change (*ἐξ ὅ*); (2) the antithetic determinatenesses of form, which are negatives towards each other as annulling and positing (*τι* and *εἰς τι*); (3) the first Mover (*ὅφ' ὅ*) the pure activity (Met. VII. 7; IX. 8; XII. 3). [Remark by Professor Michelet, the editor: "Not only the form in its annulling activity but also the matter is called *τι* by Aristotle, since in fact the annulled form serves as mere

material for the positing; so that he calls in the first passage the three moments *ἐκ τινος*, *τι*, *ὅπό τινος*, in the last place *τι*, *εἰς τι*, *ὅπό τινος*." But the activity is the unity of form and matter; how the last two are united in the first, Aristotle does not explain. In this manner appears on the sensuous substance the difference of the moments, but not as yet their return into themselves; but the activity is the negative which contains the antithetic sides in itself ideally, and hence it is already the goal of the process.

b. A higher kind of substance, according to Aristotle (Met. IX. 2; VII. 7; XII. 3), is that which already contains the activity which is the object of its process. This is the in-and-for-itself determined Understanding whose content is the final cause which it actualizes through its activity without undergoing change like the mere sensuous substance. For the soul is essentially *entelechy*, a general process of determination which posits itself; not a merely formal activity whose content comes from elsewhere. But since the active process posits its content in the actuality, the latter remains the same; it is, however, still an activity different from the matter, although the substance and the activity are united. Thus we have here another sort of matter which the Understanding demands as a presupposition. The two extremes are *matter*, as potentiality, and *thought*, as actuality; the former the passive Universal, the latter the active Universal; in the sensuous substance, on the contrary, the Active is conceived as quite different from the matter. In the former two moments change does not take place; for they are the in-itself-existent Universal in an antithetic form.

c. The highest point is, however, rather that in which *potentiality*, *activity*, and *entelechy* are united,—the ABSOLUTE SUBSTANCE which Aristotle (Met. XII. 6-7; IX. 8) defines in general thus: The in-and-for-itself existent (*αἰδιον*) is unmoved [by others], but at the same time it moves [through itself], and its essence is pure activity without having matter. For matter as such is the passive upon which change takes place, and it therefore is not as yet one with the pure activity of this substance. Here we see indeed, as before, how a predicate can be denied without saying what its truth is; matter is, however, only that moment of the unmoved essence [i. e.

it is the unmovedness of the essence taken abstractly]. If in modern times it has seemed a new thing to define the Absolute Essence as pure activity, we see that this happened only through ignorance of the Aristotelian philosophy. The scholastics have rightly viewed this as the definition of God, and have applied to Him the designation of *actus purus*; there is no higher idealism than this. We might express this also in the following manner: God is the substance that contains within His potentiality also His actuality inseparably united; in Him the potentiality is not distinct from the form, since He produces His content-determinations from Himself. In this Aristotle differs from Plato, and from this position he polemicizes against the principle of number, and against the idea and the Universal; because if the latter is inert, it is not identical with actuality, is no movement. The inert ideas and numbers of Plato thus bring nothing into actuality; but the Absolute of Aristotle is in its repose at the same time an absolute activity.

More in detail, Aristotle remarks (Met. XII. [XI.] 6) upon this subject: "It can happen that what has potentiality is not actual; for this reason it does not help us any to make substances eternal, as does the doctrine of ideas, if they do not contain a principle which admits of change. And, moreover, it would not avail anything if it did possess such a principle unless it were active; for then there would be no change. Nay, even were it active, if its substance were only a potentiality, then there could be no eternal motion; for potentiality admits of existence and non-existence. Hence there must be a principle whose substance is to be apprehended as activity." Thus in Spirit the substance is energy itself. "There seems at this point, however, to arise a doubt. For all activity seems to be possible, but not all possible to energize [i. e. not every potentiality is actual]; so that the potential seems to be primary [or antecedent to energy]," for it is the Universal [general]. "But if it were so, no being would exist; for it is possible that a thing *might* be although it is not. But energy is higher than potentiality. It cannot, therefore, be said, as the Theologians affirm, that there was first in infinite past time a chaos or night" (matter), "or, as the Physicists hold, that all existed simultaneously [i. e. all is eternal].

How could this first [chaos or matter] be changed if nothing actual were the cause? for matter cannot move itself, but only the workman can move it. Therefore Leucippus and Plato assert movement to be eternal, but they do not say why." The pure activity is, according to Aristotle (Met. IX. 8), prior to potentiality, not according to time, but according to essence [logically, not chronologically, prior]. Time is a subordinate and is not a constituent element of what is universal; for the absolutely primal Essence is, as Aristotle says at the close of the 6th chapter of the 12th Book, "that which abides self-identical in equal [self-consistent] actuality." In that assumption of a chaos, &c., an actuality is posited which becomes another, not itself. and thus has a presupposition [i. e. it presupposes the other as its possibility]; chaos is, however, only the empty potentiality.

The true essence is to be posited, continues Aristotle, as that "which moves in a circle" (Met. XII. 7); "and this is not alone to be seen in the thinking reason, but also in the fact." From the determination of the Absolute essence as active which makes it issue forth into actuality, it follows that it exists in an objective manner in visible nature. As the self-identical which is visible, this absolute essence is "the *eternal heavens*"; the two modes of exhibition of the Absolute are thus the thinking Reason and the eternal heavens. But the heavens are [passively] in motion: they should, however, be also an active mover. While the spherical form is thus moving and moved, there is a middle term which moves but is the unmoved, and is at the same time eternal and a substance and an energy.* This great doctrine of Aris-

* *Note by Prof. Michelet.*—"Since this Hegelian exposition of the famous Aristotelian passage has so many authorities for it, the editor did not venture to follow the practice of his associate editors here, as he has done elsewhere frequently in these lectures, and change inaccuracies silently. It is clear that Aristotle speaks in this place of three substances: (1) A sublunary world which is moved by the heavens; (2) the heavens as the middle, which are at once mover and moved; (3) and God the unmoved mover. The passage must be punctuated according to Alexander Aphrodisias (Schol. in Arist. Ed. Brandis, p. 804, b), Cardinal Bessarion (Aristotle lat. ed. Bekk. p. 525, b), and others, so that the translation will read as follows: Besides the perpetually moved heaven, there "is also something which it moves. But since that which is moving and moved at the same time is also a middle term, it follows that there is also an unmoved mover." Cf. Michelet: Exam. Crit. p. 192.

tole, as the circle of the Reason returning into itself, sounds like doctrines that have been reached in modern times; the "unmoved which moves" is the Idea which is in eternal self-identity, which remains in relation to itself while it moves. He explains this in the following way: "Its movement is determined in this manner: that moves which is desired and thought; it is, however, itself unmoved, and the original of both is the same." That is the final cause whose content is desire and thought; such a final cause is the Beautiful or the Good. "For what is desired is that which appears as beautiful" (i. e. which pleases), "whose first" (or final cause) "which is willed by the will is what is beautiful. We desire it, however, because it so appears, rather than that it so appears because we desire it." For then it would be posited only through the [subjective] activity; it is, however, posited as an independent objective essence through which our desire is first aroused. The true principle is in this, however, the thinking [activity]; for thought is only moved by thought. The other co-element, *συστοιχία*,* is however intelligible" (one scarcely believes his eyes) "in-and-for itself," namely, the in-and-for-itself-existing thought which is posited as objective; "and this substance of the other element is the first; the first substance is, however, the simple, the pure activity. The Beautiful and the Best are precisely similar; and the first [cause] is eternally the absolute, or the best possible. But that the final cause [or the purpose] belongs to the unmoved is evident. What is moved can also be otherwise than it is. The movement (*φύσις*) is the first change; the first movement is again the circular movement; this latter is, however, moved by the former." According to Aristotle, therefore, the Idea, the *principium cognoscendi*, is also the mover, the *principium essendi*; he expresses this as God, and shows its relation to the individual consciousness. "The first cause is necessary. *Necessary* is to be predicated in three ways: firstly, the violent [external force] which is against the inclination (*παρὰ τὴν ὁρμήν*); the second, without which the good is not; thirdly, what cannot be in another manner, but is absolutely as it is. To such a principle of the unmoved the heavens are

* Note by Hegel. — *Συστοιχία* is a good word; it may signify an element which is its own element, and determines itself only through itself.

attached and the whole of nature,"—the visible eternal and the visible changeable. This system endures always. "For us, however," as individuals, "it is an abode permitted only for a short time, which is most excellent. To the former [i. e. God] it is eternally thus; for us this is impossible. Since, now, His activity is enjoyment itself, it happens on this account that waking, feeling and thinking are the richest in pleasure: hopes and memories are enjoyment [mediately] for the same reason. The thinking, however, which is pure-for-itself is a thinking of that which is the most excellent in-and-for-itself"; the thought is for itself its own absolute final cause. The distinction and antithesis in the activity, and the cancelling-of the same, is expressed by Aristotle thus: "The thought thinks itself through participation (*μετέδληψιν*) in thought; it is, however, thought through contact and thinking; so that the thought and that which is thought are the same." Thought, since it is the unmoved which moves [causes motion], has an object, which however passes into activity since its content is also what is produced through thought, and hence identical with the activity of thinking. [The object of thought is first begotten in the activity of thinking, which is therefore a separation of the thought as an object. Here, in the thinking, is therefore that which is moved and that which moves the same: since the substance of that which is thought is the thinking activity, that which is thought is the absolute cause which, itself unmoved, is identical with the thought which is moved by it; the separation and the relation are one and the same. The chief moment of the Aristotelian philosophy is therefore this: that the energy of thinking and the object which is thought are one and the same; "for that which apprehends what is thought and the essence, is thought. Its possession is one with its activity (*ἐνεργεῖ δὲ ἔχων*) [or, it is a continuous energy]; so that this" total of activity through which it thinks itself "is more divine than that which the thinking reason supposes to possess that attribute"—i. e. the content of thought. Not that which is thought is the more excellent, but the energy of thinking itself; the activity of the apprehending produces that which is perceived [the total activity is more divine than one phase or moment of it seized abstractly]. "Speculation (*ἡ θεωρία*) is

thus the most delightful and best. If God, now, is always in this, as we are at times" (in whom this eternal thinking, which is God himself, occurs only as individual condition), "then He is admirable; if still more, then more admirable. But He is thus. Life, too, is His; for the actuality of thought is life. He, however, is activity; the activity returning into itself is His most excellent and eternal life. We say, therefore, that God is an eternal and the best life." From this substance Aristotle excludes, moreover, quantity.

We in our language describe the absolute, the true, as the unity of the subjective and objective, which on this account is neither the one nor the other, and as well the one as the other: but Aristotle has likewise expressed himself in these forms which are still to-day the deepest speculative forms, and has defined the Absolute and True in its highest clearness. Hence it is not a dry identity of the abstract understanding that he means, but he distinguishes subjective and objective firmly and strictly. Such dead identity is not the most worthy of honor—it is not the God of Aristotle; but Aristotle finds energy to be this. *Unity* is also a poor, unphilosophical expression, and the true philosophy is not the "system of identity": but its principle is a unity which is activity, movement, repulsion, and hence is identical with itself in its difference. If Aristotle had made the insipid identity of the understanding, or of experience, his principle, he would never have come to such speculative ideas, and would not have posited individuality and activity higher than general potentiality. The thought as that which is thought [i. e. the object] is nothing else than the absolute idea considered *in-itself*—"the Father" [stated theologically]; yet this first, unmoved, as distinct from the activity, is still as absolute the activity itself, and is first posited in its truth when posited through this. In the doctrine of the soul, Aristotle returns again to this speculative thinking; it is in that place, however, to Aristotle a condition to be taken up separately and empirically just like other conditions, such as sleep, weariness, &c. He does not say in that place that it is the only truth, that all is thought; but he says: it is the first, strongest, most honored. We, however, say: that thought as the absolutely self-related *is* the truth; that thought is *all* truth,

though we encounter in ordinary consciousness such activities as *feeling*, &c., as actual, side by side with the thinking. Although Aristotle does not express himself as Philosophy does at the present day, yet there lies at bottom the same insight; he does not speak of a special nature of Reason, but of universal Reason. It is precisely the character of Aristotle's speculative philosophy, to consider all objects in [speculative] thought [i. e. as total processes and not as abstract phases], and thus to elevate them into thoughts [i. e. taking any mere empirical object to bring it before the mind as a whole, and thus to seize it in its universality and necessity]; so that while they are as thoughts [total processes] they are in their truth. By this statement it is not meant, however, that the objects of nature are therefore thinking [or conscious] beings]; but, when they are thought subjectively by me, my thought is also the ideal totality [necessary form of the reality] of the thing, which thus constitutes their in-and-for-itself-existing substance. In nature the Idea exists, however, not for itself as thought in this freedom, but has flesh and blood, and is encumbered with externality; this flesh and blood has, however, a soul, and this is its idea. In the common definition of truth according to which it is "the agreement of the conception with its object," truth does not yet find its complete realization in the "conception"; for if I form a conception of a house or of a timber, I am not this content at all, but something quite different, and my conception is not at all in agreement with the object. Only in thinking is found the true agreement of the objective and subjective; I am identical with thinking. Aristotle is found, therefore, upon this highest standpoint; one cannot desire to know anything deeper, although he always uses the form of beginning from mere conceptions.

Here Aristotle solves (Met. XII. 9) many doubts; such as, e. g., whether thought is compound; or, whether science is the thing itself. "There arise still some doubts concerning thought ($\nu\omicron\upsilon\varsigma$), which seems to be the most divine among all existences; it has some difficulties in defining the conditions under which ($\pi\acute{\omega}\varsigma$ δ' $\xi\chi\omega\nu$) it is this [i. e. the divinest]. If a man thinks nothing, but conducts himself as one who sleeps, what advantage has he over the latter? If, however, he thinks, but another controls him therein ($\delta\lambda\lambda\omicron$ $\chi\acute{\upsilon}\rho\iota\omicron\nu$), then that which is

his substance would not be the thinking ($\nu\acute{o}\eta\sigma\iota\varsigma$), but the thinking would be only a potentiality." He would not be in eternal activity. "Then he would not be the best substance; for on account of the (active) thinking ($\tau\omicron\upsilon\ \nu\omicron\epsilon\tilde{\iota}\nu$) he has his worth. Whether now, further, the thought or the thinking activity is his substance, what does he think, himself or another? and if another, always the same, or a different? Does it not make a difference whether one thinks the Beautiful, or only the Accidental? First, now, if the thought is not the thinking [i. e. if mind is not an activity] but is only a faculty [or capacity], the act of continuous thinking would be a tiresome operation to it," for each force wastes itself. "In that case another would be more excellent than thought, namely, the object of thought ($\nu\omicron\omicron\upsilon\acute{\omicron}\mu\epsilon\nu\omicron\nu$); and the thinking and thought ($\tau\omicron\delta\ \nu\omicron\epsilon\tilde{\iota}\nu\ \kappa\alpha\iota\ \eta\ \nu\acute{o}\eta\sigma\iota\varsigma$) would find themselves in that condition which thinks the most inferior. Since this is to be avoided (as it is better not to see some things than to see them), then thinking would not be the best. Thought is therefore this: to think itself, because it is the most excellent; and it is the thinking which is *thinking of thinking*. For understanding and feeling and opinion and deliberation *seem* always to concern another and to relate to themselves only incidentally. Moreover, if the thinking and being thought are different, in which of the two does the Good appertain to thought? For the ideas of thinking and of that which is thought are not the same. Or is Science in some cases the thing itself [i. e. its own subject-matter]? In the practical, the subject-matter is immaterial substance and the determinateness of the final cause ($\eta\ \sigma\upsilon\delta\acute{o}\iota\alpha\ \kappa\alpha\iota\ \tau\omicron\ \tau\acute{\iota}\ \eta\nu\ \epsilon\tilde{\iota}\nu\alpha\iota$); in the theoretical it is the ground and the thinking. Since, therefore, that which is thought and the thought thereof are not different, these opposites, in so far as they have no matter, are the same; and there is only one thought of that which is thought." Reason which thinks itself is the absolute final cause, or the Good; for it is only on its own account. "Yet there is still a doubt whether the thinking is not a compound; for in that case it might change in the parts of the whole. The Good is not in this or that part, but it is the best in the universe as another than it [i. e. the Good is found in the totality]. Thus the thinking activity relates eternally to itself.

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THOUGHTS ON PHILOSOPHY AND ITS METHOD.

Translated from the German of ARTHUR SCHOPENHAUER by CHARLES JOSÉFÉ.

[CHAPTER I. OF THE "PARERGA UND PARALIPOMENA."]

§ 1. The foundation on which rest all our cognitions and science, is the inexplicable. To this therefore every exposition recurs, by means of connecting links, many or few, as on the sea the sounding-lead finds the bottom sometimes at a greater, sometimes at a less depth, but must at last reach it everywhere. This inexplicable belongs to metaphysics.

§ 2. Most men think continually, that they are a certain man, this or that man (*τις ἀνθρωπος*), together with the corollaries that follow from this thought; but seldom do they think that they are man in general (*ὁ ἀνθρωπος*), though that is the main point. Those few, who indulge in the last idea more than in the first, are philosophers. The tendency of the others is to see in general in all things nothing but the single and individual, not the general. Only those spirits who are highly endowed, see in single things, according to their greatness of genius, more and more that which is common to all. This important difference penetrates the whole cognitive faculty in such a manner as to extend to the contemplation of the most common things; these, therefore, present entirely different phases to the man of genius and the common man. This comprehension of the general in the individuals, which alone present themselves, is harmonious with that which I have called the pure, will-less subject of cognition and set up

as the subjective correlate of the Platonic idea; because the cognition can remain will-less only when it is directed to the general; the objects of will lie in individual things; therefore the cognition of animals is strictly confined to the individual, and their intellect in consequence remains exclusively in the service of their will. On the contrary, that direction of the mind to the general is the indispensable condition of genuine achievements in philosophy, poetry, arts, and sciences.

For the *intellect in the service of the will*—that is, in its practical use—there exist only individual things; for the intellect which devotes itself to arts and sciences—that is, which is active for itself—there are only generalities, whole kinds, species, orders, *ideas* of things, since even the plastic artist intends to represent in the individual only the idea—that is, the genus. This rests upon the fact, that the *will* immediately is only directed upon individual things: they are its proper objects; for only those have an empirical reality. Ideas, species, orders, on the contrary, can only very indirectly become its objects. Therefore the inexperienced man has no comprehension of general truths; but the genius overlooks and neglects the individual; the enforced occupation with single things as such, as it forms the subject-matter of practical life, is to him nothing but a burdensome sojourn.

§ 3. The two primary requisites to philosophy are these: firstly, that one have the courage to hold no question back from discussion; and secondly, that he bring clearly before consciousness everything that is *axiomatic*, in order to be able to conceive it as a problem. Lastly, it is necessary to true philosophizing that the mind be really unbiased; it must not pursue any aims, and therefore not be influenced by the will, but must devote itself wholly to the information which is given to it by the intuitive world and its own consciousness.—Professors of Philosophy, on the contrary, take into consideration their personal advantage and profit, and whatever leads to it; hence their earnestness. Therefore they do not perceive at all many obvious things; nay, they never come to a clear understanding even of the problems of philosophy.

§ 4. The poet brings to the imagination pictures of life,

human characters and situations, puts everything into motion, and leaves it to everybody to think about those pictures as far as his power of mind is enabled to grasp them. Therefore he can amuse men of the most different faculties, even fools and wise men at the same time. But the philosopher does not bring the life itself but the finished thoughts which he abstracted from it, and asks now that his reader think exactly so and just as far as he did himself. On this account his public is necessarily very small. The poet, therefore, may be compared to him who brings the flowers; the philosopher, to him who brings their quintessence.

Another great advantage which poetical labors possess over philosophical ones is this, that all the works of the poets exist side by side without interfering with each other,—even the most heterogeneous of them can be enjoyed and esteemed by the same mind; while each philosophical system, as soon as it has appeared, endeavors to ruin all its brethren, just as an Asiatic sultan does at his entrance into power. For, as there can be but one queen in the beehive, so there can be prevalent but one philosophy. The systems are as unsocial in their nature as spiders; each sits alone in its web, and watches how many flies may be caught in it, but approaches another spider only to fight with it. Therefore, while the works of the poets peacefully pasture side by side like lambs, those of the philosophers are born voracious beasts, and their longing to destroy is even like scorpions, spiders, and some insects, chiefly directed towards their own species. They come forth into the world like the harnessed men from the sowing of the dragon's teeth of Jason, and all of them have hitherto, like these, destroyed each other. This combat has endured already more than two thousand years; will there ever result from it a last victory and an eternal peace?

In consequence of this essentially polemical nature, of this *bellum omnium contra omnes* of the philosophical systems, it is infinitely more difficult to acquire any importance as a philosopher than as a poet. All that is demanded by the work of the poet of the reader, is to give himself up to the entertaining or inspiring writings, and to devote himself for a few hours. But the work of the philosopher, on the contrary, demands a change in his entire manner of thinking; it

demands of him that he declare as error everything that he has learned and believed in this province, that he regard his time and trouble as lost, and that he begin anew ; at most, it leaves him a few rudiments of a preceding system from which to make his basis. Besides this, he finds an opponent *ex officio* in every teacher of a system already existing ; nay, even the state sometimes takes some system chosen by it under its protection, and prevents by its powerful, material means, the rising of every other system. Consider further, that the number of the philosophical public is to that of the poetical as the number of people who want to be instructed is to those who want to be amused, and one will readily judge, *quibus auspiciis*, a philosopher makes his appearance. But, in return for this, it is the approbation of the thinkers, of the elect of long periods, of all countries, and of all nations, that recompenses the philosopher. The multitude gradually learns from authority to honor his name. In consequence of this, and because of the slow but deep influence of the course of philosophy upon all mankind, and since the history of philosophy for thousands of years marches beside the history of kings, and counts a hundred times less names than this, it is something great to secure for one's own name a fixed place in it.

§ 5. The philosophical writer is the guide and his reader the wanderer. In order to come together, they first of all must start together ; that is, the author must take his reader from a point of view which they surely have in common ; but this can be no other than that of the empirical consciousness common to all of us. Here he must firmly take him by the hand, and now try how far above the clouds he may reach with him by leading him step by step on the mountain-path. This is the procedure of Kant: he set out entirely from the common consciousness, as well of the thinking subject as of other things. How incorrect, on the contrary, would it be to proceed from a pretended intellectual intuition of hyper-physical relations, or from a reason that perceives the transcendent, or from an absolute self-thinking reason ; for all this is not proceeding from immediate communicable perceptions, and therefore, even at the beginning, the reader never knows whether he follows his author, or whether he is far from him.

§ 6. The discourse with some one else about things is to our own earnest meditations and inward contemplation of them as a piece of machinery to a living organism. For only in the last is everything as cut from one piece, or as played in one key; therefore can it attain full clearness, distinctness, and true connexion, even unity; with the other, on the contrary, there will be put together heterogeneous pieces of very different origin, and a certain unity of motion be enforced, which often unexpectedly stops. For only one's self understands himself perfectly, others only half; for all one can get at is the community of the conceptions, but not the community which lies at the foundation of the intuitive comprehension of them. Deep philosophical thoughts will therefore perhaps never be brought to light, by way of community of thought, in the dialogue. However, this will be very advantageous as a previous exercise to start the problems, or to ventilate them, and afterwards for the examination, control and criticism of the solutions offered. In this sense, also, the dialogues of Plato are composed, in consequence of which there proceeded from his school the second and third academy with an increasing skeptical tendency. As a mode of communicating philosophical thought, the written dialogue will answer the purpose only where the object permits two or more quite different or even opposed views, the decision between which shall be either left to the reader, or which, taken together, shall serve as a supplement to each other for the complete and right understanding of the matter: to the first case also belongs the refutation of raised objections. The dialogistic form chosen in regard to this must then become truly dramatic for the reason that the difference of opinions is rendered prominent and worked out fundamentally: there must be really two who are speaking. Without this aim it is but an idle play, and this it is generally.

§ 7. Neither our knowledge nor our insight will ever be much increased by comparing and discussing that which is spoken by others; for that is only just as if one poured water from one vessel into another. Insight and knowledge can be really augmented only through one's own consideration of things themselves; for this alone is the ever-near and living spring. It therefore is very curious to see how those who

pretend to be philosophers are always occupied in the first way and seem not at all to know the other one; how they are always occupied by what this one has said, and what that one might have meant; so that they, as it were, always turn up old vessels anew to see whether there might not have remained in them a little drop, while the living spring flows neglected at their feet. There is nothing that betrays their incapacity more, or so plainly gives the lie to their assumed air of importance, thoughtfulness, and originality.

§ 8. Those who hope to become philosophers by studying the history of philosophy, may rather learn from it that philosophers, just as poets, are only born, and that more seldom.

§ 9. A curious and unworthy definition of philosophy, but which is given by Kant, is this, that it is a science of mere ideas, while the whole character of the ideas is nothing but what is put into them after it has been borrowed and begged of the intuitive perception, which is the real and inexhaustible spring of all cognition. A true philosophy, therefore, cannot be spun out from mere abstract ideas, but it must be founded on internal as well as external observation and experience. Neither will anything extraordinary ever be accomplished in philosophy by attempting the combination of ideas, as it has been carried out so very often by the sophists of our times, that is, by Fichte and Schelling, but most repugnantly by Hegel, besides also, in morals, by Schleiermacher. Philosophy as well as art and poetry must have its source in the intuitive apprehension of the world; moreover, it must not proceed in too cold blood, though the head has so much necessity for keeping cool; so that if at last the whole man, with heart and head, comes to action, he may be moved throughout. Philosophy is no algebraic example. Vauvenargue rather is right when he says, "Great thoughts come from the heart."

§ 10. Considered in general, the philosophy of all times may be conceived as a pendulum swinging to and fro between rationalism and illuminism; that is, between the use of the objective and that of the subjective sources of cognition. Rationalism, originally appointed to serve the will alone, and which therefore is directed outward, first appears as dogmatism, as which it is altogether objective. Then it

changes into skepticism, in consequence of which it becomes at last criticism, which undertakes to settle the dispute by taking into consideration the subject; that is, it becomes transcendental philosophy. By this I understand every philosophy which proceeds from the principle that its nearest and immediate objects are not things, but only the human consciousness of them, which therefore must never be left out of account. The French, not very appropriately, call this "*la méthode psychologique*" in opposition to "*la méthode logique*," whereby they understand that philosophy which naturally proceeds from any objects or objectively considered conceptions—that is, dogmatism. Arrived at this point, rationalism recognizes that its organon only conceives the phenomenon, but does not arrive at the last, intrinsic, and essential essence of things.

In all its phases, but nowhere more than just here, illuminism makes its appearance in opposition to it, and this essentially directed inward, has as its organon internal illumination, intellectual intuition, higher consciousness, immediately perceiving reason, consciousness of God, unification, etc., and it disregards rationalism as the "light of Nature." If, now, it assumes as its foundation a religion, it becomes mysticism. Its chief deficiency is that its cognitions are not communicable, partly because for the inner perception there is no criterion of the identity of the object of different subjects, partly because such a conception ought to be communicated by means of the language; but this, originated in behalf of the conception of the intellect which is directed outwardly by means of abstractions from it, is altogether unfit to express those fundamentally different internal conditions which are the matter of illuminism. This, therefore, had to form for itself a language of its own; but this again, on account of the first reason, was not possible. Now, as this cognition is not communicable, it also is indemonstrable; whereupon rationalism, at the hand of skepticism, enters again the field. Illuminism is already to be detected in some parts of Plato; but it more decidedly appears in the philosophy of the New-Platonists, of the gnostics, of Dionysius Areopagita, as well as of Scotus Erigena; again, with the Mohamedans, as the doctrine of *Sufi*; in India it prevails in the Vedanta and Mimansa; but most decidedly

belong to it Jacob Böhme and all the Christian mystics. It always appears when naturalism has run through a course without reaching its aim: so it appeared in Tauler and the author of the German theology, and others, towards the end of the scholastic philosophy, as its antithesis, as mysticism; and likewise in modern times, as opposed to the philosophy of Kant, in Jacobi and Schelling; also in the last period of Fichte. — However, philosophy should be communicable cognition, therefore it must be rationalism. Consequently, I have in mine, at the end, it is true, pointed out the domain of illuminism as something existing, but have been very cautious not to enter it even in the least; in return, I also did not attempt to give the final explanations of the existence of the world, but only went so far as it is possible to go, on the objective, rational mode. As to the illuminism, I left its space free, where it, in its own manner, may find the solution of all problems without the possibility of crossing my path, or the opportunity of ever disputing with me.

However, there may often enough lie a hidden illuminism at the foundation of rationalism, towards which then the philosopher looks as to a concealed compass, while he avowedly directs his way only by the stars — that is, the external and clearly presented objects — and ostensibly takes only these into account. This is admissible, because he does not undertake to communicate the uncommunicable cognition, but his communication remains plainly objective and rational. This may have been the case with Plato, Spinoza, Malebranche, and many others: it does not concern anybody; for these are the secrets of their hearts. But, on the contrary, the loud appeal to intellectual intuition, and the bold relation of its contents, together with the pretension of objective sufficiency of them, as with Fichte and Schelling, is insolent and rejectable.

Illuminism, however, in itself is a natural attempt to explore the truth, and so far it may be justified. For the intellect, which is directed outward as a mere organon for the aims of the will, and consequently only something secondary, is but a part of our whole essence: it belongs to the phenomenon, and its cognition corresponds only to this because it exists only in its behalf. What, therefore, can be more natural,

after it failed with the objective-conceiving intellect, but to bring into action our whole remaining nature, which is also but a thing in itself—that is, which belongs to the true essence of the world, and consequently must bear in itself in some way or other the solution of all problems, and to seek help by it;—as did the ancient Germans, who, after they had lost everything, at last staked their own persons. The only right and valid objective way to accomplish this, is to conceive the empirical fact of a will which makes itself known in our interior—nay, even forms the only essence of it—and to apply it to the explanation of the objective external cognition, as I consequently have done. But, for the reasons explained above, the mode of illuminism does not lead to the end.

§ 11. Mere craftiness enables one, perhaps, to be a skeptic, but not to be a philosopher. However, skepticism is to philosophy what the opposition is in parliament, and is just as salutary, even necessary. Everywhere it depends upon the fact that philosophy can present no evidence such as mathematics possesses, and man is equally devoid of the instinct of animals which insures success from the start. Therefore, against every system skepticism can lay itself in the scale; but its weight at last will become so insignificant against the other that it will do it no more harm than does the fact that the arithmetical quadrature of the circle is but approximative, invalidate its usefulness. That which one knows is of double importance, if at the same time one confesses himself not to know what he does not know. By this means the former is secured against the suspicion to which it is exposed, if one pretends to know what he does not know, as, for instance, did the partisans of Schelling.

§ 12. Certain propositions which one accepts as true without examination, and of which he is so firmly convinced, that, even if he desired, he could not examine them earnestly, because he cannot at all doubt them, are called judgments of reason. This firm credit they obtained because they were incessantly dictated, and by that means instilled into him when he commenced to talk and to think; for which reason his habit of thinking them is just as old as the habit of thinking in general. Whence it comes that he is no longer able

to separate the two; they have grown into his brain. What is said here is so true, that it would be on the one hand superfluous and on the other hazardous to cite any examples.

§ 13. No opinion of the world, if derived from an objective, intuitive apprehension of things, and if consequentially carried through, can be entirely erroneous; but it is, when the worst comes to the worst, only defective: so, for instance, is perfect materialism, absolute idealism, and others. They are all true, but they are all at the same time true; consequently, their truth is only a relative one. Every such apprehension, viz., is only true from a particular standpoint, just as a picture represents a landscape from one point of view only. But if one rises above the standpoint of such a system, then he will perceive the relativity of its truth, i. e. its one-sidedness. Only the highest standpoint, overlooking everything, can give absolute truth. In consequence of this, it is true, for instance, if I regard myself as a mere transient product of nature, which, having originated in time, is destined to total destruction — as in the case of Koheleth; but at the same time it is true that everything which has ever been and ever will be is I, and there is nothing besides me. It is just as true, if I, after the manner of Anakreon, place the highest happiness in the enjoyment of the present; but at the same time it is true, if I conceive the wholesomeness of suffering, and the nugatoriness, yea, the perniciousness of all enjoyment, and conceive death as the aim of my existence.

The reason of all this is, that every view which can be logically carried out is nothing but an apprehension of nature transferred into ideas, and which on this account is a fixed, intuitive, and objective one; but nature—that is, the intuitive—never lies, nor contradicts itself, because its essence excludes anything of that kind. Wherever, therefore, there exists a contradiction or a lie, there are thoughts that have not originated from objective apprehension; as, for instance, in optimism. But an objective apprehension can, on the contrary, be incomplete and one-sided: then it deserves a supplement, not a refutation.

§ 14. Men are never tired of reproaching metaphysics with its little progress, in the face of the great strides of physical science. Even Voltaire exclaims: "*O métaphysique! nous*

sommes aussi avancés que du temps des premiers Druïdes." But what other science besides this has always had a continual restraint, at all times an antagonist *ex officio*, an appointed fiscal accuser, a king's champion in full armor, who encountered the defenceless and unarmed? Never will it be able to show its real powers, to take its gigantic steps, so long as one demands of it under threats its subordination to the dogmas which are calculated for the very small capacity of the great multitude. First they bind our arms, and then they mock us, so that we cannot accomplish anything. The religions have taken possession of the metaphysical talent of men, partly by laming it through a premature inculcation of its dogmas, partly by forbidding and prohibiting all free and unprejudiced expressions in such a way that to man, free inquiry into the most important and most interesting matters about his existence is partly forbidden, partly directly or indirectly is hindered, partly is subjectively made impossible to him by that lameness, and in such a manner that the most sublime of his talents is bound in fetters.

§ 15. To make ourselves tolerant towards views opposed to ours, and patient in contradiction, nothing perhaps is more efficacious than the recollection of how often we ourselves, on the very same subject, have successfully cherished quite contrary opinions, and have changed these again and again even in a very short time; how we have rejected, and accepted again, sometimes the one opinion, sometimes the opposite, as the subject presented itself now in this, then in another light. Likewise to produce any effect in our contradiction of the opinion of others, nothing is more efficacious than the phrase: "the same I formerly used to believe, too; but," etc.

§ 16. An erroneous doctrine, whether it proceed from an erroneous view or from a bad intention, is always destined only for a special occasion,—truth alone, for all time,—though it may be mistaken or stifled for awhile. Yet as soon as there comes a little light from within, or a little air from without, somebody will appear to proclaim or to defend it. Because it did not proceed from the design of any party, every eminent genius will be its advocate. For it resembles the magnet, which always and everywhere points towards an absolute fixed point of the world; the erroneous doctrine, on

the contrary, resembles a statue which points with its hand towards another statue, separated from which it has lost all signification.

§ 17. What is most opposed to the discovery of truth is not the false appearance proceeding from things and leading to error; nor immediately weakness of mind; but it is the preconceived opinion, the prejudice, which as a spurious *a priori* opposes itself to the truth, and resembles a contrary wind which drives back the ship from the direction in which alone the land is situated, in such a manner that rudder and sails are vainly active.

§ 18. The verse of Goethe in Faust,

"What thou hast inherited from thy fathers,
Acquire it to possess it,"

I comment upon as follows: To find, what thinkers have found already, by our own means, independent of them and before knowing of their discovery, is of great importance and advantage. For what one thinks himself he will understand more profoundly than what he has learned, and, if afterwards he finds it with those leaders, he will obtain unexpectedly a strong and truth-testifying confirmation by other acknowledged authority, whereby he then will gain confidence and constancy to defend it against every contradiction. But, on the contrary, if one has found it first in books and afterwards also got at the same result by his own meditation, then he never certainly knows whether he thought and judged this himself, or merely repeated and experienced what he had found in books. But this makes a great difference in regard to the certainty of the matter. For in the last case, it may be, that he has followed the errors of his predecessors; just as water easily takes the course marked out for it. If two count, each one for himself, and get the same result, then this will be a sure one, but not if the counting of the one has been only reviewed by the other.

§ 19. It is a consequence of the constitution of our intellect which is derived from the will, that we cannot forbear to comprehend the world either as end and aim, or as means. The first only would denote that its existence is justified through its being, consequently is by all means to be preferred to its non-existence. But the perception that it is only a field of

battle for suffering and dying beings, does not permit this opinion. However, the infinitude of time already past, by virtue of which every attainable aim could have been reached long since, does not permit us to conceive it as means. From this it follows that every application to the totality of things, or the world, of the supposition natural to our intellect, is a transcendental one; that is, such a one as perhaps is permitted in the world but not *of* the world: which is to be explained from the fact that it originated from the nature of our intellect, which, as I have shown, originated in the service of an individual will — that is, for the attainment of its objects — and therefore is calculated exclusively for aims and means, consequently does not understand nor conceive anything else.

§ 20. If one looks about him, where is presented to us the immeasurability and the innumerableness of beings, his insignificance is made apparent, and man as a mere individual seems to vanish. Overpowered by this preponderance of bulk and number, one imagines that the philosophy which is directed to the without — that is, objective philosophy — can only be on the right track: the most ancient Greek philosophers do not even think of doubting this. But if, on the contrary, one looks within, then he finds, first of all, that every individual sympathizes directly with himself, even takes more interest in himself than in all the rest taken together; and it follows from this that he understands only himself directly, but everything else only indirectly. If we add to this that conscious and cognitive beings absolutely only can be imagined as individuals, and that unconscious ones only have a half-way and merely indirect existence, then every proper and true existence is found in individuals. If, lastly, we even recollect that the object is conditioned by the subject, that consequently those immeasurable objects external to us have their existence only in the consciousness of cognizing beings, consequently are bound to the existence of individuals who are its bearers, and bound to it so decidedly that in this respect they even can be regarded as a mere endowment, an element of the constantly individual consciousness; — if we, I say, take all this into consideration, then we come to the opinion that only that philosophy is the right one which

is directed towards the internal, which proceeds from the subject as the directly given—that is, the philosophy of modern times since Descartes—and that consequently the ancients overlooked the main point. But the full conviction of this we shall attain only if we, deeply reflecting upon ourselves, bring to our consciousness the feeling of originality which is in every cognizing being. Yea, even more than this: Everybody, even the most insignificant person, finds in his simple self-consciousness himself as the most real being, and necessarily discerns in himself the true centre of the world, yea, the primitive, original source of all reality. And does this original consciousness lie? The strongest expression of it is in the following words of the Upanishad: *hæ omnes creaturæ in totum ego sum, et præter me ens aliud non est, et omnia ego creata feci*—which then, of course, is the transition to illuminism, perhaps even to mysticism. This, therefore, is the result of the reflection which is directed towards the internal; while the one directed to the external gives us to perceive as the aim of our existence a little heap of ashes.*

On the classification of philosophy, which is of especial importance with regard to the teaching of it, the following would, from my point of view, be valid.

Philosophy, indeed, has as its object experience; but not, like the rest of the sciences, this or that particular experience, but merely experience itself in general, according to its possibility, its domain, its essential contents, its internal and external elements, its form and matter. I have fully shown in the second volume of my principal work that philosophy undoubtedly has some empirical foundations, and cannot be spun out from mere abstract notions. From this, it further follows that the first thing which it has to take into consideration must be the medium in which in general experience presents itself, besides its form and nature. This medium is representation, cognition—that is, intellect. Therefore, every philosophy has to commence with the examination of the

* *Finite* and *infinite* are ideas which have a signification only in reference to space and time, as both these are infinite, that is, endless as well as divisible *ad infinitum*. If we apply these two conceptions to other things, then they must be such as, filling space and time, partake through these of their properties. From this it may be judged how great is the abuse which some boasters and would-be philosophers have carried on with those conceptions in this century.

cognitive faculty, of its forms and laws as well as its validity and limits. Such an inquiry, therefore, will be *philosophia prima*. It will be divided into the consideration of the primary, that is, the intuitive conceptions, which partly may be called *Dianoiology*, or the Science of the Understanding, and into the consideration of the secondary, that is, the abstract notions, besides the legality of its procedure, that is, logic, or the doctrine of reason. This general part contains, or rather supplies the space of what formerly was called Ontology, and exhibited as the doctrine of the most general and most essential properties of things as such, since they took as properties of things abstractly what belongs to them only in consequence of the form and nature of our faculty of representation, as in consequence of this, all beings which are to be comprehended must represent themselves conformably to this, in consequence of which they then obtain certain properties common to all of them. This can be compared to the circumstance that we attribute the color of a glass through which we look to all the objects seen through it.

Philosophy more strictly taken, and following such inquiries, will then be metaphysics; because it not only teaches of the existing, of nature, orders and considers it in this connection, but also conceives it as a given but somehow or other conditioned phenomenon, in which there represents itself a being different from it, which consequently would be the thing in itself. With this now it endeavors to become better acquainted: the means to this are partly the joining together of the external with the internal experience, partly the obtaining of an understanding of the whole phenomenon by means of the finding of its sense and its connection — which may be compared to the reciting of the hitherto enigmatic characters of an unknown inscription. In this way it proceeds from the phenomenon to that which manifests itself, i. e. to what is behind it; hence *τὰ μετὰ τὰ φυσικά*. In consequence of this, it is divided into three parts:

Metaphysics of Nature;

Metaphysics of Æsthetics;

Metaphysics of Ethics.

But the derivation of this classification presupposes already metaphysics. For this shows the thing in itself, the internal

and ultimate essence of the phenomenon, in our *will*; consequently, after the consideration of it as it represents itself in external nature, its quite different and immediate internal manifestation will be examined, from which proceeds the metaphysics of ethics; but, before this, will be taken into consideration the most perfect and most sublime comprehension of its external or objective appearance, which is the metaphysics of æsthetics.

There is no such thing as a rational psychology; because, as Kant proved, the soul is a transcendent, and, as such, an undemonstrated and unjustified hypostasis; in consequence of which the antithesis of spirit and nature is left to the Philistines and the Hegelians. The essence of man in itself can be understood only in connection with the essence-in-itself of all things, that is, the world. Therefore Plato, in the *Phædrus*, lets Socrates, in the negative sense, ask the question; "Do you suppose that the nature of the soul can be comprehended apart from that of the world?" Microcosm and Macrocosm reciprocally explain each other, whereby it follows that they are essentially the same. These considerations of man's internal being penetrate and fill up metaphysics in all its parts, and can therefore not appear again separated as psychology. On the contrary, anthropology may be treated as an empirical science, but it is partly anatomy and physiology, partly mere empirical psychology, that is, a knowledge of the moral and intellectual utterances and peculiarities of mankind derived from observation. But the most important part of it, as an empirical matter, will necessarily be anticipated by the three parts of metaphysics, and be used by them. What then remains demands a subtle observation and an ingenious comprehension, nay, even contemplation from a somewhat elevated standpoint — I mean from that of some superiority — and is therefore capable of being enjoyed only in the writings of eminent men of genius, e. g. Theophrastus, Montaigne, La Rochefoucauld, La Bruyère, Helvetius, Chamfort, Addison, Shaftsbury, Shenstone, Lichtenberg, and others; but is not to be looked for nor to be borne in the compendiums of professors of philosophy destitute of genius, and therefore opposed to all genius.

NEW SYSTEM OF NATURE

And of the Communication of Substances, as well as of the Union of Soul and Body.

Written in 1695, and translated from the French of G. W. LEIBNITZ, by A. E. KROEGER.

(This article gives a clue to the doctrine of the Monadology.)

1. It is several years ago that I conceived this system and communicated about it with learned men, particularly with one of the great theologians and philosophers of our time, who, having learned some of my ideas from a lady of the highest quality, had found them quite paradoxical. But having received my explanation he retracted his criticism in the most generous and pleasant manner in the world; and having approved a part of my propositions, he checked all censure of the others concerning which he did not yet agree with me. Since that time I have continued my meditations as occasion permitted, so that I might give to the public only such opinions as had been well examined; and meanwhile I have also tried to meet the objections raised against my essays on the Dynamics, which have some connection with this subject. But at last, many persons desiring to see my opinions more cleared up, I have hazarded the publication of these meditations, although they are in nowise popular, nor proper to be relished by every kind of minds. I have done so chiefly in order to profit by the judgment of those who are learned in these matters, since it would be too embarrassing to hunt up individually all who might be disposed to instruct me; and I shall always be glad to receive such instructions, provided they exhibit a love of truth rather than passionate prejudice in favor of cherished opinions.

2. Though I am one of those who have long labored in mathematics, I have not ceased from my youth to meditate on philosophy, since it appeared to me always that there must be some means to establish something permanent in it by clear demonstrations. I had penetrated quite far already in the land of the Scholastics, when mathematics and modern writers caused me to leave it at a time when I was yet quite young. Their nice ways of explaining nature mechanically charmed me, and I justly despised the method of those who simply employ forms or faculties by which one learns

nothing. But since then, in trying to get at the bottom of even the fundamental principles of mechanics, in order to render an account of the laws of nature that experience has taught us, I began to perceive that the consideration of an *extended mass* alone would not be sufficient, but that it was necessary to employ moreover the conception of a *force*, a conception which is quite intelligible, though it belongs to metaphysics. Thus it seemed to me that the opinion of those who degrade the beasts into pure machines, though it seems possible enough, is without any likelihood and even against the order of things.

3. At first, when I was not yet free from the yoke of Aristotle, I had held to the void and atoms, for this best fills the imagination; but having found my way back, and after many meditations, I perceived that it is impossible to find *the principles of a true unity* in matter alone, or in that which is only passive, because everything here is simply a collection or mass of parts *ad infinitum*. But since the multiplicity cannot have its reality in aught but *true unities* that originate otherwise, and are quite other things than the points of which it is certain that the continuous could not be composed, I was compelled, in order to find these *real unities*, to have recourse to a formal atom, since a material being could not be at the same time material and completely indivisible, or, in other words, endowed with a true unity. Hence I had to recall and, as it were, reestablish the *substantial forms* so much decried at the present day, but in a manner which rendered them intelligible, and which separated the proper use to be made of them from the abuse that has been made of them. I discovered then that their nature consists in force, and that from it there arises something analagous to sensation and desire (*appetit*), and that hence we must conceive them similarly to the conception which we have of *souls*. But since the conception of soul must not be used to account for the detail of the economy of the animal *body*, I considered that I must also not use these forms to explain the particular problems of nature, though they are necessary to establish true general principles. Aristotle calls them first entelechies. I call them, perhaps more intelligibly, *primitive forces*,* that

* Afterwards Leibnitz called them monads.

contain not only the *act*, or the complement of possibility, but moreover an original *activity*.

4. I saw that these forms and these souls must be indivisible, just as our spirit is; and, indeed, I recollected that Saint Thomas held this view in regard to the souls of animals. But this truth renewed great difficulties concerning the origin and duration of souls and forms. For every substance that has a true unity, as it cannot have either its beginning or its end otherwise than through a miracle, it follows that they could begin only by creation and end only by annihilation. Thus I was obliged to recognize that, excepting the souls that God wants expressly to create hereafter, the constitutive forms of substances must have been created together with the world, and that they subsist forever. Thus some scholastics, like Albert the Great and Jean Bacon, had a glimpse of the truth regarding their origin. And the matter ought not to appear extraordinary, since it does not attribute to the forms anything but that permanency which the followers of Gassendi accord to their atoms.

5. I thought, however, that it would not do to mix indifferently with these forms the spirits and the rational souls that are of a superior order and have incomparably more perfection than the forms of matter, being rather like small gods in comparison, made in the likeness of God and having in them some rays of the light of the divinity. This is why God governs the spirits as a prince governs his subjects, or even as a father takes care of his children; whereas of the other substances he disposes as an engineer manages his machines. Thus the spirits have particular laws which place them above the changes of matter; and it may be said that everything else is made only for their sake, these very changes being regulated to correspond with the felicity of the good and the punishment of the bad.

6. Nevertheless—to return to the ordinary forms or the *material souls*—this permanency, which we must attribute to them in place of that permanency which has been attributed to the atoms, might lead to a doubt as to whether they do not pass from one body to another body, which would be a *metempsychosis* somewhat like the transmission of movement and of species which some philosophers have believed in.

But this idea is very far from the nature of things. There is no such transmission; and it is here that the *transformations* of Messrs. Swammerdam, Malpighi, and Leewenhock, who belong to the most excellent observers of our times, have come to my aid, and have made it more easy for me to admit that the animal, and indeed every other organized substance, do not begin to exist when we believe they do, and that their apparent generation is nothing but a sort of augmentation. I have observed that the author of the *Recherche de la Vérité*, Mr. Regis, Mr. Hartsoeker, and other able men, have not been far from this opinion.

7. Still there remained the great question what these souls or forms might become after the death of the animal, or by the destruction of the individual of the organized substance; and it is this which causes most embarrassment, since it appears not at all reasonable that the souls should remain useless in a chaos of confused matter. This has led me finally to consider that there is only one sensible conclusion to arrive at, namely, that of the conservation not only of the soul, but moreover of the animal itself and its whole organic machinery, no matter whether the destruction of its grosser parts may have reduced it to a littleness, which, however, escapes our perception no more than it did before the animal was born. Thus no person is well able to point out the true time of death, which for a long time may pass for a simple suspension of known actions, and in point of fact is never anything else in the lower animals; witness the *resuscitations* of flies that were drowned and afterwards buried in pulverized chalk, and many singular examples that illustrate clearly enough that there would be many other resuscitations, and of far greater extent, if men were in a condition to mend the machine. It seems, indeed, as if it must have been something like this which the great Democritus has spoken of, however much of an Atomist he was, and although Pliny ridicules him on that account.

It is, therefore, natural that the animal having been always alive and organized, as persons of great penetration now begin to recognize, must also remain so always. And since there is no first birth or entirely new generation of an animal, it follows that there can also be no final extinction or complete

death—speaking with metaphysical strictness;—and that hence, in place of the transmigration of souls, there occurs only a transformation of the same animal according to the way in which the organs are differently folded, or more or less developed.

8. Nevertheless the rational souls follow far higher laws, and are exempt from all that which could make them lose the quality of citizens of the empire of spirits; God having arranged this so well that all the changes of matter could not make them lose the moral qualities of their personality. Indeed it may be said that everything tends to the perfection not only of the universe in general, but also of those creatures in particular which are destined to such a degree of happiness that the universe finds itself interested therein in virtue of the divine goodness, which communicates itself to each one as much as the supreme wisdom may permit.

9. Concerning the ordinary course of the animals and other corporeal substances, of which men have hitherto believed the entire extinction, and the changes whereof depend more upon mechanical rule than moral laws, I observe with pleasure that the ancient author of the book *On Diet*, which has been attributed to Hippocrates, had some notion of the truth when he stated in express terms that the animals neither are born nor die, and that those things which have been held to begin and to perish simply appear and disappear. This was also the opinion of Parmenides and Melissus, as Aristotle reports: for these ancients were more thorough than we believe.

10. I am quite well disposed to render justice to the moderns, nevertheless I find that they have carried their reform too far; amongst other things, in confounding natural with artificial things, which they did because they had not sufficiently high ideas of the majesty of nature. They conceived that the difference between the works of nature and our own works was only one of degree. This has led very recently a very able man, the author of *Conversations on the Plurality of Worlds*, to say that in regarding nature more closely we find her less admirable than we had believed, and indeed only like the shop of a workman. But I believe that this does not give a sufficiently worthy idea of nature, and it is only my system which teaches men to know at last the true and immense dis-

tance between the smallest productions and mechanisms of the divine wisdom and the greatest works of art of a limited intelligence; this difference being not of degree, but one of kind. It should therefore be known that the machines of nature have a truly infinite number of organs, and are so well provided and proof against all accidents that they cannot be annihilated. A natural machine remains always machine in its smallest parts, and, what is more, remains always the same machine it has been, becoming transformed only by the different unfoldings it receives, being now extended and then again compressed and as it were concentrated until we believe it to have become lost.

11. Furthermore, by means of the soul or the form there exists in them a true unity, which corresponds to that which we call Ego in us. But this could not be if they were works of art, or if they were simple masses of matter, however highly organized, in which case they could be considered only as an army, or a troop, or a lake full of fishes, or a watch composed of springs and wheels. But if there were no true or substantial unities in them, there would be nothing substantial or real in the agglomeration. It was this which compelled Mr. Cordemoy to leave Descartes and accept the doctrine of atoms of Democritus, in order to find in them a true unity. But material atoms are contrary to reason, besides being composed of parts; since the invincible attachment of the one part for the other—if it could be rationally conceived or suffered—would not destroy their diversity. Thus there are only *substantial atoms*—that is, real and absolute unities—destitute of parts, and the sources of actions as well as the first absolute principles of the composition of things and the last elements of the analysis of substances. One might call them *metaphysical points*. They have *something vital* in them and a sort of *perception*, and the *mathematical points* are their *points of view* to express the universe.

But when the corporeal substances are compressed, all their organs together make only one physical point, in our opinion. Thus the physical points are only in appearance indivisible; the mathematical points are exact, but they are mere modalities; only the metaphysical or substantial points—constituted by the forms or souls—are exact and real, and

without them there would be nothing real, since without true unities there would be no multiplicity.

12. After having established these things, I thought I had entered port; but when I set to meditating on the union of soul and body, I was, as it were, cast back upon the open sea. For I did not find any means to explain how the body could exercise any influence upon the soul, and *vice versa*; nor how one substance could communicate with another created substance. Mr. Descartes had left this matter untouched, so far as one can glean from his writings; but his disciples, seeing that the common opinion on this subject was inconceivable, supposed that we felt the qualities of bodies because God caused thoughts to arise in our souls on the occasion of the movements of matter, and that when our souls in their turn moved matter it was God who moved the matter for them. Finally, since the communication of movements seemed to them impossible, they believed that God gave movement to the one body on the occasion of the movement of another body. It was this they called the *System of Occasional Causes*, a system that was put quite in vogue by the neat reflections of the author of *Researches after Truth*.

13. It must be confessed that these Cartesians have well grasped the difficulty in their way, by stating what cannot be; but it does not appear that they have removed the difficulty by explaining that which in fact occurs. It is quite true that there is no real influence exercised by one created substance on another one (speaking with metaphysical strictness), and that all things with all their realities are continually produced by the power of God; but in order to solve these problems it is not enough to employ a general cause and to call to aid what is called a *Deus ex machina*. For to do this without giving any other explanation, which might be derived from the order of secondary causes, is simply to have recourse to miracles. But in philosophy we should endeavor to give reasons in explaining how things do occur by divine wisdom in conformity with the conception of the subject under consideration.

14. Being, therefore, obliged to agree that it is not possible that the soul, or any other true substance, can receive anything from without, except it be by divine omnipotence, I was

insensibly led to an idea which surprised me, but which seemed inevitable, and which has, in fact, very great advantages and very considerable beauties. This was, that we must then come to the conclusion that God created the soul, or every other real unity, in such a manner as to have everything arise in it from its own proper nature with a perfect *spontaneity* in relation to itself, and yet at the same time with perfect *conformity* to the outside things. That thus our internal perceptions—that is, those in the soul itself, and not in the brain or in the subtle parts of the body—being nothing but phenomena related to external things or true appearances, and like well regulated dreams—that these internal perceptions, therefore, in the soul itself, come to the soul through its own original constitution, that is to say, through that representative character (capable of expressing outside things by relation to its organs) which was given to it at its creation and which constitutes its individual character. Thus it is that each of these substances—each representing precisely the whole universe in its own way and according to a certain point of view, and the perceptions or expressions of the external things reaching the soul in this point by virtue of its own laws, as of a world in itself, and as if nothing existed but God and itself (to use the mode of expression of a certain person of elevated mind and whose sanctity is everywhere recognized)—must be in perfect accord with all others, whereby the same effect is produced as if they all communicated with each other by a transmission of species or of the qualities, as the vulgar philosophers imagine. Moreover, the organized mass, wherein the point of view of the soul exists, being expressed more nearly, and finding itself reciprocally ready to act of itself according to the laws of the bodily machine in whatever moment the soul wills it,—neither one interfering with the laws of the other,—the intelligence and the blood have precisely those movements which are necessary to respond to the passions and perceptions of the soul. It is this mutual *rapport*, regulated in advance in each substance of the universe, which produces what we call their communication, and which alone constitutes the *union of body and soul*. It is thus that we can understand how the soul has its seat in the body by an immediate presence; a presence that

could not be greater, since the soul is there just as the unity is in the result of the unities, which is the multiplicity.

15. This hypothesis is very possible. For why might not God have given at first to the substance a nature or internal force which produced in it perfect order—just as if it were a *spiritual or formal automaton, but free* in that substance which partakes of reason—all that which might happen to it, that is, all those appearances or expressions which it ever might have, and this without the aid of any creature;—all the more since the nature of the substance demands necessarily and embraces essentially a progress or change, without which it would not have the power to act? The nature of the soul being representative of the universe in a very exact manner, though more or less distinct, the sequence of the representations which the soul produces will naturally correspond with the sequence of the changes in the universe itself; just as, on the other hand, the body has been accommodated to the soul for those occurrences wherein the soul is conceived as acting outside of itself, which is all the more reasonable since the bodies are made only for those souls that are capable of entering into communion with God and of celebrating his glory. Thus as soon as one sees the possibility of this *hypothesis* of accords, or harmonies, one sees also that it is the most reasonable one, giving a marvellous idea of the harmony of the universe and of the perfection of God's works.

16. There is moreover this great advantage, that, instead of saying we are free merely in appearance and in a manner sufficient for practical purposes, as many intelligent persons have held, we ought rather to say that we are determined only in appearance, and that (speaking in metaphysical strictness) we are perfectly independent of the influence of all other creatures. This puts into a wonderfully clear light, moreover, the immortality of our soul and the perennial uniform conservation of our individuality, always well regulated by its own nature and guarded against all outside accidents, no matter how much it looks to the contrary. Never did a system establish our dignity with greater evidence. Every spirit being a world in itself—sufficient for itself, independent of all other creatures, enveloping the infinite, and expressing the universe—is as durable, as subsistent, and as absolute,

as the very universe of all creatures. Hence we must hold, that we should always keep in mind the most proper manner of contributing to the perfection of the society of all the spirits who realize their moral unity in the city of God. We find here also a new proof of the existence of God, a proof of surprising clearness. For this perfect accord of so many substances that have no communication amongst themselves, can result only from a common cause.

17. Besides these advantages which recommend this hypothesis, we may say that it is more than an hypothesis, since it seems scarcely possible to explain things in another way intelligibly, and since many great difficulties that have hitherto puzzled the minds of men seem to disappear when this theory has been well comprehended. The usage of ordinary speech is not interfered with particularly by this. For we can well say that the substance, the disposition whereof gives a reason for the change in an intelligible manner—in such a way that we can judge that all the others have been accommodated to it from the beginning according to the decrees of God—is that substance which we must conceive as one that acts upon others. Thus the action of one substance upon the other is not an emission or the transplantation of an entity, as the vulgar believe, and cannot be reasonably taken for anything else than I have described. It is true that we can well conceive in matter the emission and reception of parts, by which we have reasons to explain mechanically all the phenomena of Physics; but since the mass of matter is not a substance, it is clear that the action as related to the substance can be only in the way I have said.

18. These considerations, however metaphysical they may appear, have still further a marvellous application to physical sciences by establishing the law of movement as my *Dynamics* may show. For we may say that in the collision of bodies each suffers only by its own repulsion,—the cause of the movement that is already in it,—and so far as the absolute motion is concerned nothing can determine it mathematically since everything terminates in *rappports*. Hence there is always a perfect equivalence of hypotheses, as in Astronomy. Thus, whatever number of bodies you take, it is perfectly arbitrary to assign rest or a specified degree or motion to whatever

body you may select; and no phenomena of straight, circular or composite motion can refute you. Still it is reasonable to attribute to bodies true motion in accordance with the supposition that we should account for phenomena in the most intelligible manner, this denomination being conformable to that conception of action which we have just endeavored to establish.

GOETHE'S STORY OF THE SNAKE.

Translated from the German of CARL ROSENKRANZ, by ANNA C. BRACKETT.

[The German word *Mährchen* can be properly rendered in English neither by Fable nor Legend. *Fairy-Story* would most nearly express its meaning, but this name does not seem applicable here. The introductory remarks of our author must be understood, however, as referring to that class of fictions termed Fairy-Stories in English, though in many of them no fairies, properly speaking, appear. I have translated it simply Story.—Tr.]

At the beginning it should be said that such stories, as a class, belong to epic poetry, and among nations that possess an epic poem, this may be only an organized compilation of them; as among the Greeks, for instance, the *Odyssey* embodies the fabulous literature of that people. Among those who have no proper mythical religion they fill the place of the myth, just as among those who possess no real epic poetry they answer its purpose. The stories of the gods of Greenland and Kamschatka belong to this class, and among the Westphalians and the Lithuanians we find them even now instead of traditional epics. They are the epics of childhood. As to their execution, however fantastic they may be, the play of the fancy must be based upon a certain amount of truth to nature, and this necessity has been perceived and acted upon by Goethe in this case. The river, the cavern, the veins of metal, the will-o'-the-wisps, the snake, the changes in the light at different times of the day,—all these are painted with the purest, most objective truth to nature. It is this firm basis which persuades us into accepting without objection the numerous transformations, and in this foundation Goethe has an infinitely strong support of the purest

epic character. If we compare with his clear representations the imitations in romance which followed him, we shall at once recognize the difference between them in this particular, for many of their writers seem to think that fiction consists in a misrepresentation and distortion of nature.

But with this truth to nature, which suits so well the sensuous simplicity of a child's mind, must be joined the child-like traits of fancy, of holding fast to striking details and of ignoring the limits of the understanding. This element is also excellently seen in the story under consideration, though we find the story more in earnest than would be one intended for children. The scattering from the torches of the will-o'-the-wisps of sparks, which jingle on the ground as golden coins, is one of these inimitable touches, also the changing of Mops from a pet dog into a precious stone; the three maidens who serve the fair Lily and who bring her, the first an ivory stool, the second a harp, while the third holds a sunshade over her; the paying of the ferryman, in lieu of gold, with three artichokes, three onions, and three cabbages,—these and similar most exact descriptions of minutiae correspond happily to the realism of childlike fancies. The same effect is produced by the disregard of probability and law; as, for example, in the subterranean temple, where the statues of the four kings stand in niches, we are told that the old man with the lamp sinks away towards the west, the snake towards the east, and yet both of them immediately appear as present. And it is as if to satisfy the curiosity of children, when the ferryman's hut, which we had perceived just at the beginning, is not forgotten at the end, but is made into an inner temple of the greater one by being changed into a kind of altar. It is difficult to use this childlike element without allowing it to become absurd or childish; and childishness is a prominent weakness of the new race of story-tellers who are continually flooding Germany with their tame and weak compositions, thus furnishing the worst possible food for the fancy and mind of children.

We have a right to demand of the author of such a story that it shall be more than an aphoristic aggregate of shadow-pictures in kaleidoscopic confusion; that it shall be a work carried out with an Idea. And this idea should not be a mere

scaffolding of conceptions, around which, from without, the flower-wreath of fancy is wound, for then the story becomes only an allegory, and in an allegory the aim is forced disagreeably upon one's attention. It should be thoughtful; it should, as Goethe says, remind us of all and of nothing; or, as Schiller expresses it, it should be the symbol of all. We should be able to interpret for ourselves its forms, yet there should always remain something inexplicable and mysterious. Goethe has succeeded perfectly in this particular. A prophetic voice rings throughout the whole in the cry, "The time is at hand!" The enigmatical questions which the poet has introduced belong to the national German spirit, which always likes to sound, by their means, guest or host, to find out of what spirit he is, and whether the stranger is worthy of further acquaintance. Thus we have here the questions: "What is nobler than gold?" "The light." "What is more refreshing than the light?" "Speech." And again: "What is the greatest secret?" and the right worthy answer, "The open secret." The open secret refers to regeneration, for all errors appear at the conclusion as blotted out, all ties renewed, all spirits inspired with fresh intelligence. But all this is represented as possible only in so far as the different powers combine for one and the same end. Isolated efforts avail not. Novalis unquestionably desired to represent somewhat the same thought at the end of the first part of his *Ofterdingen*, but evidently found it perplexing to do so. He allowed his world of shadows to become too dreamy, while in Goethe's story everything fits together; the boldness of the fantasy is relieved by the unity and simplicity of the representation, and the mysterious flexibility of the didactic elements lacks nowhere the sensuous clearness of objective coloring. I am often surprised that no one of the Dusseldorf artists has attempted to paint the different scenes of this story.

But what shall we say is its aim? If we consider that we find it related in a conversation of travellers who wish to banish politics from their words, we shall not be far wrong if we assume that the political element has taken refuge in the mask of the story and given to it its special meaning; and yet that it has, besides this, a quite free and universal signi-

fication, entirely independent of any relation to the events, and of many-sided value. The very thing which the travelers had agreed not to mention, projected itself into a dreamy vision, ventured out in the guise of a child's story into the company, and even established itself as a Totality, so that the conversation came to an end. May not the youthful king, who, despoiled of his throne, his sceptre, and his sword, forsaken, wanders around in his armor and purple cloak to seek the fair Lily, represent a prince who has lost his throne through the faults of his ancestors? As the complement of this wanderer we have Lily, who charms all by her beauty and blesses all by her song, but who is solitary, surrounded by a lovely garden, the trees of which however never bear flowers or fruit. Her glance benumbs all life, her touch kills. Thus she laments:

" Afar from pleasures human, sweet and tender,
The bride of sorrow, wait I day by day.
Why mirrors not the stream the temple's splendor?
Why springs the bridge not o'er the river's way?"

This Lily is *Innocence*, but innocence pure and simple, which, as a force opposed to all life as to that which has incurred some responsibility, paralyzes it. But it can also reanimate. Thus, when confronted with innocence, guilt becomes conscious of itself, but it does not rest here; it passes beyond the paralysis of this self-recognition, and springs to a new and better life through its union with innocence.

Between the subterranean temple, in which are the statues of the four kings, and the garden of the beautiful Lily, sweeps a river directly suggestive of the Rhine, on whose banks various races dwell, across which Germany and France watch each other, and over which as yet no strong stone bridge is arched. But this is a secondary consideration. The principal thing is the water, which at the same time separates and unites mankind. The ford across is guarded during the day by a giant, who is inactive himself, but whose shadow demands toll from all who come within its reach. Thus it takes from the old woman's basket, in which she brings in behalf of the will-o'-the-wisps three artichokes, three onions, and three cabbages, one of each. Why should we not see in this awkward giant a sym-

bol of the duties and customs levied by nations, and which fetter free trade? Trade which is so fettered is forced into defective methods. At noon, the snake stretches herself across the river, her back forming an easily-travelled bridge. The snake in the cavern is greedy of gold. As the ferryman brings her the gold pieces which the will-o'-the-wisps flung to him as pay, but which he does not dare to take, she swallows them voraciously, and thereby grows and shines. She may represent wealth, but that wealth which is reasonable enough to recognize its own vocation to be only to serve as a means. We see the snake winding herself through the metallic veins of the earth, and again as a bridge aiding the trade of men. But we also perceive that she knows the fourth secret, unquestionably contained in the words said by her, that it is better to sacrifice one's self than to let one's self be sacrificed. In the coming days, wealth shall no longer heap up treasures for the sake of mere possession, but it shall consider them as a means whose spending elevates and promotes commerce.

There are now three characters remaining: the two will-o'-the-wisps and the old man with the lamp, who form a marked contrast, but who in the last scenes unite for a common deliverance. Abstractly considered, I take the will-o'-the-wisps, because of their elegance, gallantry, loquacity, and relationship to the snake, to represent men of the world, or diplomats; and the old man, who appears in simple peasant's costume, for a priest, who in the paths of science has raised himself by the light of the lamp to a comprehensive insight, and who well knows when the time is at hand. I have already, in criticising the fable of Reynard the Fox, spoken of the difference between the services rendered by the worthy and the unworthy priests. The priest of to-day cannot work alone by a simple and a pious life. The hermit in his cell, the monk in his cloister, are the only ones who can permit themselves such simplicity. The priest who in the temple of truth and love comes in contact with all, like this old man, must have gained through intelligence a just comprehension of the world, if he would rightly fulfil his high vocation. *Sancta simplicitas* alone is no longer sufficient. This is the abstract meaning. But in a more concrete explanation I would say that the

two will-o'-the-wisps are Frenchmen and the old man a German, and that the moral indicated is the union of the French and the Germans, who together would be invincible. The Rhine, across which the snake at last stretches herself as a diamond bridge, is in the future no more to divide but to unite these two nations.

All gather together 'around Lily, for all wish to become innocent; but Lily can do nothing alone: the individual cannot deliver the whole. Deliverance can come only when all unite at the right time. But the right time will come after the greatest misfortune has happened, and this is when the young prince tries to seize by force the beloved Lily, who would not permit herself to touch him, with the intention of dying at her feet. Terrified, she endeavors to escape, but in the effort touches him and he falls lifeless before her. The snake coils around him to protect him from decay until sunset. Lily can reanimate him, but not give him back his soul; but the snake sacrifices herself in forming over the river a broad and stately bridge, on each side of which are beautiful footpaths, while riders and carriages crowd its centre.

Our company now, anxious for the recovery, descend to the subterranean temple, in which the authorities of ethical life, powerless from their want of unity, wait impatiently for deliverance. As the prince goes to the brazen king, he reaches to him sword and shield, and calls, "The sword on the left, the right free!" The youth now becomes evidently really animated; his breast heaves. The silver king hands to him the sceptre and says, "Feed the sheep!" and now a charming grace overspreads the figure of the youth. The golden king gives him a wreath of golden oak-leaves as a crown, and admonishes him, "Recognize the Highest!" At these words self-conscious intelligence streams again from the eyes of the youthful hero. This whole scene doubtless has for signification that the attributes of true majesty — Strength, Appearance (i. e. the power to manifest itself), and Wisdom — must be found united in the living personality. The fourth king had not seated himself, but was standing, and had previously told the old man that he stood to govern; at which he had been answered, that one would soon see whether that was so, since the Time was at hand. But now when the three kings

rose, he sat down, and so very awkwardly that he fell altogether in a shapeless heap. His stuttering speech had already betrayed that all was not right with him. He was compounded of the metals of the three other kings, but in the mixing the different elements had not been rightly fused, and were hence easily separable; the will-o'-the-wisps played over the gold that was in his veins and licked it out, so that he fell wholly to pieces. Does not this figure without doubt represent the false royalty, which is only a mechanical combination of the different attributes of kingly power, and not an organic, living unity, full of soul and permeated with spirit? This false royalty dissolves into its own nothingness, at the same time that the true royalty, new-born through innocence, adorns itself with the insignia of its dignity.

"Strength, Appearance, Wisdom," the old man announces, "rule the world."

"But," adds the newly-inspired king, "the strength which has ruled in all space and all time, and which will continue to rule, is Love."

"Love rules not," answers the old man; "it fashions all things, and that is more."

The new king now unites himself to the charming Lily, who has laid aside her veil since she has no longer to dread that her look will kill.

The temple mounts upward. All people press towards it and do homage to the new ruler. A general pardon follows, and with it a general rejuvenation. Even the old woman whose hand was withered is made young again by a bath in the river. But the giant, like a stupid fellow as he is, has slept through the whole transformation. He staggers up in the morning to bathe in the accustomed place, but finds it not, and gropes around the bridge with malicious intent. The king angrily seizes his sword. But the clumsy giant is at once fixed in the form of a statue in a court of the palace, where as a sun-dial he marks the passing of the day by the shadow which he throws on the emblems of the hours, arranged in a circle around him. Such a state of petrification is the final destiny of the advocates of customs and duties, who, when once the beautiful bridge of Free-trade is safely and permanently constructed by means

of the voluntary sacrifice of wealth, can excite only passing unrest.

The temple of Freedom in which strength and innocence are united through love, and the bridge of free commerce on which all may cross to either side at all times, are sought by every one.

This explanation of the story is, as I well know, one-sided and doubtful. It is however so much a whole that I have not altered it, although the expressions of others, as those of Düntzer, might have prompted me to modification in some parts. I cannot persuade myself that Lily, the emblem of the overthrown Bourbons, can be the false freedom which destroys all. Hotho seems to me to have expressed the general meaning in the following concise words: "In the new Present, which should be at hand, the old snake sacrifices herself so that she may be the foundation for the most active and world-embracing commerce, and that she may lead to the temple from which Wisdom, Appearance, and Strength, reconciled, rule the world, bound in a loving union with Innocence and Beauty, and allied to Art, which destroys immediate life and yet awakes death itself to new life."

FACTS OF CONSCIOUSNESS.

Translated from the German of J. G. FICHTE, by A. E. KROEGER.

PART FIRST.

THE THEORETICAL FACULTY.

CHAPTER III.

CONCERNING THE REPRODUCTION OF EXTERNAL PERCEPTION.

We have seen how through the discovery of freedom in reflection a power of imagination has sprung up. This power of imagination may, as we have seen, be applied to the reproduction of external perception, since it has already under its control all those elements that belong to such a reproduction; and it will be all the more proper here to

consider imagination only as such a power of reproduction, since altogether free creations by its means appear as yet to be without end or meaning. In speaking of this reproduction we speak by no means of any new development of life, as we did in the case of reflection; for all the conditions of the possibility of such a reproduction are already furnished by reflection.

1. Consider this: such a reproduction is absolutely possible by virtue of the realized reflection. This possibility is standing, immanent in life, ever-present. How, then, does actuality distinguish itself from this possibility, and how am I ever to be impelled—always having possibility within my grasp—to add to it actuality? I answer: that possibility can consist at the utmost in a rule which is altogether a matter of thinking, whereas an actual fact under this rule would produce a contemplation. Hence possibility and actuality are here related to each other like free thinking and contemplation.

2. What, then, will be the presupposed rule of such a reproduction? External perception was a determined limitation of the external sense and the contemplation of space. The rule must be, therefore, a direction of the power of imagination to produce by its own activity an image of just that very same limitation. In the first instance, the limitation comes of itself without freedom. In the present instance, the power of imagination extends itself over the whole region of external sense and space, and is to give itself that determined limitation within this region. The fundamental condition of this free limitation is this, that the power of imagination should overlook the whole region, and have it well separated into classes and kinds,—for instance, the whole of the external sense into the five chief senses, and each of these again according to the chief distinctions of its limitations;—and the whole of the contemplation of space according to the possible limitations of figures, so that it may easily conform to a desired limitation according to a determined rule. The former, the classification, is necessary, so that nothing may be passed unnoticed; the second, a sharp distinction amongst the various determinations of the same sense, is necessary, in order that we may not fill up the image by that which is undeter-

mined and confused instead of that which is strictly determined in perception. This latter distinction requires an acuteness of the senses with reference to sensuous qualities, which, it is true, is partly a natural gift; but which can also be voluntarily acquired by very strenuous attention, without which, after all, the mere natural gift is of no use.

3. This is the inner substance of the rule. But which, amongst the many qualities of perception, is the power of imagination to behold, in the image? Here we arrive at the external substance of the rule: the power of imagination is to be guided by the prototype of external perception. But how can it be so, since the external sense is not affected? for if it were, we should be speaking of a state of attention and not of reproduction. Evidently the power of imagination must be able to reawaken perception in its determined parts. By directing its attention to the important point imagination must be able to reproduce absolutely this point if it so chooses, and to reproduce it exactly as it was in the previous perception. Thus we arrive at another causality of imagination, through its mere being, than the one described above as occurring in a diseased condition of the Ego. And so it is in fact, as everyone can discover by observing himself. But this new causality stands under certain conditions of freedom, since it is dependent not only upon the above described attention, and upon a proficiency in this sort of reproduction on the part of imagination—a proficiency that can be acquired only gradually—but furthermore upon the fact, that the point, which is to be reproduced, must have been clearly and vividly perceived at first. Nor must this reawakening of a single sensual part—which in our representation is something altogether new—be mistaken for the reproduction of the whole image through freedom; for whereas in the latter instance freedom furnishes the whole act of construction, it in the former furnishes only attention: in the latter there are two elements, the whole sphere of that which is to be determined and that as which it is to be determined; whereas in the former there is only a single element, which manifests itself without any free act of volition, just as it did in sensuous perception.

4. This described attention, therefore, observes for the sake

of reproduction and according to the rules thereof. Supervision it already has, voluntarily checking itself everywhere, bringing the observed matter under its proper classification, and determining the qualitative through its limits. Thus it becomes quite clear what that freedom and considerateness is, of which I said before that it pervades attention.

Thus, for instance, you now attend to my lecture with a view to reproducing it. This reproduction will occur all the more easily and happily if you attend to it at once according to a rule of future reproduction; that is, if you not only seize what I say, but, particularly, seize it in the same order in which I say it and observe why I say it in this particular order, attending well to the transitions I make and the reasons why I make them; in short, if you get possession not only of the contents of my lecture, but also of the rule according to which I produce it.

5. It is now also clear how immediate perception is distinguished from its mere image in reproduction. The latter is always accompanied by the consciousness of self-activity, and there arises in it not a single trait whereof the Ego would not be compelled to say, I make it; whereas actual perception is always accompanied by the consciousness of compulsion and confinedness.

6. Reproduction is, therefore, a self-limitation of the power of imagination within its whole sphere according to the prescription of a limitation of the external sense. The rule of this limitation is the conception of that object of external perception which is to be reproduced.

Give me a conception of a—to me unknown—object, signifies: give me the rule according to which I can construe it in free thinking.

Hence arises the very correct logical rule of definition, that it should furnish both the *genus*—the general sphere of the power of imagination—and the *differentia specifica*—that part to which imagination is to confine itself within that general sphere. We here learn also what logic holds to be thinking; namely, the free constructing according to such a rule. The science of Logic, therefore, begins within the sphere of the already acquired free imagination and ignores the real basis of all consciousness. Logic holds that to think is the

same as to imagine something, and—since there is not even a prototype of external perception as a guidance—to imagine something voluntarily; and this is, in fact, a conception of thinking which has become current amongst the whole philosophizing public, but which utterly prevents it from entering the sphere of true philosophy: a proper example as to what the over-estimation of logic and its position at the head of philosophical education, or even as philosophy itself, have effected.

7. Does there occur here in consciousness something absolutely *a priori* and altogether new? I say, certainly. For whence does knowledge obtain its maxim to follow such and no other rule in reproduction? Evidently only out of itself, and moreover from its now more closely determined power to reproduce only through a limitation. Hence knowledge here and by virtue of this contemplation gives unto itself the qualitative law of reproduction.

8. The aim of reproduction is to get possession of the world of external perception independently itself. The source of this world has now been placed within the control of our freedom, to let it flow or check it as we may choose. Thus every science—for instance, natural science—possesses its whole world as its property, and must so possess it, in order to be able to subject at any moment each part thereof to its investigation. Thus we must make also our own world, the inner world of consciousness, our free property, and we are just now, in the present course of lectures, engaged upon this task, without however being able as yet to give an account of our proceeding, precisely because we are still engaged in the task.

9. *Remarks.*—I add the following pragmatistical remarks: It is advisable to put the parts of such free constructions—particularly if these constructions are extensive—into a permanent and fixed form; for imagination, left to itself, flows, hurries, and gets confused easily. Imagination should, therefore, be tied down and brought under a supervision. In free thinking such a fixed form is *writing*. If the thinking was not close, this is more easily observed when writing it down or examining it after it has been written down; moreover, that which has been thus approved and secured from oblivion by

its fixed form, gives a solid basis for further progress. In my opinion, a thorough and exhaustive thinking is not well possible otherwise than pen in hand.

The fixed form for reproduction through sight is *drawing*. The reproduction of a visible object must, firstly, seize the figure of that object with those innumerable and often imperceptible transitions from one shape into the other that we so often observe in objects of nature, while the drawing of the figure will testify as to the correct seizing and reproducing. The reproduction must, secondly, reproduce the size of the object.

In regard to the reproduction of the figure, we have an artificial assistant in reconstructing; for the science of geometry includes all possible figures, and hence every possible limitation in nature can be reduced to a geometrical figure. In regard to the size, we have no such assistant; it must be reawakened altogether by the above-described causality of imagination; but the power of attention can practice itself in this gift of reawakening. The result of such a practice is called *a good eye for proportions and distances*, and its attainment is to be proved by the drawing.

So far as the correct seizing and reproducing of *color* in a visible object is concerned, it seems to me that this branch of the business is as yet altogether a matter of chance, and that hitherto no artificial means have been discovered to develop it.

RESTORATION OF THE VENUS OF MELOS BY A. WITTIG.

From the German of Prof. Dr. Carl von Lützow, in the "Zeitschrift für Bildende Kunst," by LEWIS J. BLOCK.

Since the discovery (in the year 1820) of the celebrated Venus of Melos, now in the Louvre, manifold conjectures looking to its restoration have been made by scientists. Of these, however, none has succeeded in gaining general approval. The liveliest interest, therefore, was aroused when, several months ago, the news came from Düsseldorf that an attempted restoration of the noble statue had been ventured

by an artist, and accomplished not merely in the form of a drawing, but in an actual model. We have been requested from many sides to give in our illustrations a copy of the newly attempted restoration, and we rejoice that through the obliging kindness of the artist, Prof. August Wittig, we are at this early day able to meet the wishes of our art-loving friends. Of course we only do this with reservation to the artist of all property in his production, on which reservation he necessarily lays the more stress inasmuch as he purposes shaping in marble the model from which our wood-cuts are taken.

"I by no means claim," writes Prof. Wittig, "to have disclosed in my restoration the original conception which filled the soul of the creator of this master-piece. The triumphant haughty carriage of the figure suggested the thought of placing in her hands the shield of Mars, the god whom she had won through her loveliness, and in whose shield, the trophy of her conquest, she beholds with delight her image mirrored. The look of the eyes, the expression and poise of the head, indicate that the figure has some distinct object in delighted view. The shield suggested itself as a near-lying form well adapted to artistic purposes, with which both hands in strict relation to the arms as restored readily fall into unison, while the leg, bent as for bearing something, affords the shield an easy and natural support. Moreover, the broken surface of that part of the leg on which the shield rests indicates, as far as I am able to judge from my copy, without having seen the statue itself, that something originally rested there. That the generally human and specifically feminine idea, which I have made the creative significance of the statue, finds analogous expression both in ancient and modern art, I need not particularly insist on. And so may the victorious Venus return also victorious from all contests into which she shall be led through my restoration!"

We have but little to add to these words. Be it remembered that the thought of placing a shield in the hands of the Venus of Melos after the manner of figures on coins, and of the magnificent Victoria of Brescia, has from time immemorial found numerous adherents in the learned world. Milli-

gen was the first to suggest it; Ottfried Müller, Welcker, and many others, ranged themselves on his side. The objections to this thought are, for the most part, successfully met by Prof. Wittig's restoration. The bending of the upper part of the body to the right, the position of the arms and left leg find therein their satisfactory solution; the poise of the figure is perfect; the lines have the loveliest flow, and neither to a front or side view do disturbing cross-lines present themselves. The remark of the artist, that distinct signs of fracture on the upper part of the left leg point to an object originally situated there, we have found confirmed on the statue before us. The drapery shows at this point not only the usual marks of much exposure to the weather, but also distinct breaks and edges which may result from a later chiseling. On the other hand, the head appears to us a little more sideways inclined, and the eyes directed to an object rather more distant than Prof. Wittig's restoration would allow. This point, however, only a comparison between the model and statue can conclusively determine.

On its discovery, aside from the tip of the nose and the left foot, which had been restored in ancient times, the original was found to want the left arm to the shoulder, and the right arm to a point nearly midway above the elbow. Two years later there were found pieces of a left arm and a left hand holding an apple. On these remnants was based the thought of placing the apple of Paris in the left hand of Venus. Notwithstanding the recent strengthening of this view by a competent critic,* the belonging of these fragments to the statue does not appear to us to stand above question. Moreover, the holding of the apple gives satisfactory explanation neither to the bending of the upper part of the body nor the position of the left leg. This restoration, therefore, by which no solution at all for the position of the right arm is afforded can as little enter competition with Prof. Wittig's as any other with which we are up to the present time acquainted.

* Fröhner, *Notice de la Sculpture Antique du Louvre*, I. 174.

INTRODUCTION TO
HEGEL'S ENCYCLOPEDIA OF THE PHILOSOPHICAL SCIENCES,
 BY KARL ROSENKRANZ.

(Written for the Edition of the Encyclopedia recently published in J. H. von Kirchmann's *Philosophische Bibliothek*.)

Translated from the German by THOMAS DAVIDSON.

A library, intended to include the principal philosophical treatises of ancient and modern times, could hardly lay claim to completeness without Hegel's "Encyclopedia of the Philosophical Sciences." It is the work in which Hegel's attempts to reduce his philosophical views to an all-embracing consistent whole, are concentrated. It is the centre from which have radiated a large number of works by other hands. Even from an historical point of view, it is the most remarkable monument of one of the most important periods of speculation.

Hegel, who was born in Stuttgart in 1770, and died in Berlin in 1831, did not write much. Besides a number of criticisms belonging partly to the beginning and partly to the end of his career, he published only four works:

1. The Phenomenology of the Mind, or the Science of the Experience of Consciousness, 1807.
2. The Science of Logic, in three volumes, 1811-16.
3. The Encyclopedia of the Philosophical Sciences, 1817; greatly enlarged in the second edition, 1827.
4. Sketch of the Philosophy of Right, or Outlines of Natural Right and Political Science, 1821.

Everything else that has been published from his pen was edited from his manuscripts by others, after his death.

Hegel had entitled the Phenomenology of the Mind the first part of philosophy, meaning thereby an Introduction or Preparatory Course, which was to be followed by the real system, forming the second part. The warlike events of those times frustrated this plan, a circumstance which, we believe, was not unfavorable to the interests of philosophy. Had Hegel at that time publicly completed his system, he would have hampered his own future development. At that time he was not only engaged in a very close critical combat

with the philosophy of the time, but we learn, from the unpublished scientific writings of Hegel, which I have discussed at length in my Biography of him (1844), what an extraordinary influence the system of Plato was still exercising over him. It has been the custom to compare Schelling with Plato and Hegel with Aristotle, and so the notion has grown up that the Aristotelian philosophy exercised a powerful and abiding influence over him. There can be no doubt that, as far as metaphysics and psychology were concerned, it influenced him deeply; but the Platonic dialectic, especially the *Parmenides*, the *Timæus*, and the *Republic* of Plato, left much more lasting traces in his mind. The reader may convince himself, by consulting Hegel's *History of Philosophy*, that he treats Plato with much deeper research and much more in detail than Aristotle.

At the time when, as Rector of the Gymnasium at Nürnberg, he had to give instruction in philosophy, he made numerous attempts to put his ideas into a more tractable shape. The "*Philosophical Propædæutic*," which I edited in 1840, and which forms the eighteenth volume of his collected works, contains the main features of the different forms into which he moulded his philosophy. He then published, along with the *Science of Logic*, the first part of the entire system, and was able, in this independent form, which occupied three volumes, to give it far greater completeness and distinctness than would have been possible had he given it to the world at the time when he originally intended to do so. The *Philosophy of Nature* ought properly to have followed the *Logic*. In a certain sense this really took place, but only in very general outlines, namely, as a division of the *Encyclopedia of Philosophical Sciences*, 1817.

This, then, was the first attempt to exhibit his system in its entirety. *Logic*, *Natural Philosophy*, and *Psychology*, were, and with good grounds, in the interest of philosophical instruction—the purposes of which the book was intended to serve—treated more in detail than *Practical Philosophy*, *Æsthetics*, and the *Philosophy of Religion*, to which only small paragraphs were devoted.

Ten years afterwards, when Hegel prepared a second edition of the *Encyclopedia*, he made altogether a new work of

it. By an entirely new treatise, prefixed as an introduction, he endeavored to provide for the necessity which the reader would feel, of making himself acquainted with the idea of philosophy from the standpoint of subjective cognition. He called this the Attitude of Thought toward Objectivity. In it he discussed the metaphysics of Leibnitz and Wolff, Anglo-French empiricism, Kantian criticism, and the Intellectualism of Intuition as held by Descartes, Jacobi, Fichte, and Schelling. His Philosophy of Nature he not only enlarged, but in many respects altered. The Practical Philosophy, likewise, in its third part, which treats of the Doctrine of Ethics, was very much extended, and, as compared with the Philosophy of Right, published in 1821, presented in a much more systematic form. The sciences of Art, Religion, and Philosophy were in like manner considerably improved, but still remained inferior to the other parts. There was throughout, in the notes, an evident effort to clear up or anticipate misunderstandings in regard to the idea of the Absolute Spirit. Some years later Hegel brought out a third edition of the Encyclopedia, in which however nothing was altered. He prefixed, however, a preface to it in which he continued his efforts to defend himself against the polemics which had been levelled at him with ever-increasing violence from all sides, in proportion as his philosophy had begun to tell upon the life of the sciences. A fourth edition of the Encyclopedia became necessary, when it was resolved to publish a collected edition of his works. Then, however, it no longer appeared in its simple form, but was edited with additions from Hegel's papers and manuscripts used in the lecture-room. Leopold von Henning undertook the Logic, Michelet the Philosophy of Nature, Boumann the Philosophy of Spirit. Thus the Encyclopedia assumed the dimensions of three large volumes.

Soon, however, the need was felt for an edition in a more compendious form, similar to the older ones. This was the reason that, in 1845, I prepared a new edition, which is generally called the fourth, owing to the fact that the edition forming the fifth, sixth and seventh volumes of the collected works has made quite another work of it, and is not counted as the fourth edition.

Such is the external history of Hegel's Encyclopedia down

to the present edition. In it, the attempt is made, by a short introduction, and by supplementary explanations at the end, to enable the reader to form as correct and complete a picture as possible of the Philosophy of Hegel as a whole. To accompany Hegel's text with notes did not seem advisable. Such a series of interruptions would destroy that unity which it is one main aim of the Encyclopedia to render salient. It would introduce a foreign tone into the language of Hegel. The continuity demanded by a systematic presentation is, besides, already sufficiently interfered with by Hegel's own notes and additions, without our carrying the process farther.

It is true that the Italian philosopher, A. Vera, has done so, and indeed with perfectly good reason, in an edition which he has made of the Encyclopedia of Hegel. He has taken as his basis the edition in Hegel's works, and accompanied the text with additions from Hegel's other works; or, where necessity seemed to demand, with independent treatises of his own. In this way, however, his survey of the whole of Hegel's system, published in the French language in Paris, occupies seven large volumes. For our compendious purpose another method has to be adopted, and this can be justified only by the manner in which it is carried out.

Since the Philosophy of History, which is foreshadowed at the close of the Practical Philosophy, as well as the *Æsthetics*, the Philosophy of Religion, and the History of Philosophy, in the Encyclopedia, even in the edition of Boumann, which forms the third part of the Encyclopedia, are so much inferior, the illustrations will have a special reference to this fact, but may also, for this same reason, be very well added or at the end, as an enlargement upon his epigrammatic brevity.

The researches, which have been made to find the idea of Hegel's Philosophy, may be distinguished as the historic and the systematic.

The historic has been discussed in innumerable works. I may, therefore, be presupposed as universally known. Hegel himself has given the substance of it in the already mentioned treatise, "The Attitude of Thought toward Objectivity," which is contained in the Encyclopedia. In a work of my own—"Hegel as the National Philosopher of the Germans," Leipzig 1870—I have endeavored to bring this subject to a settle-

conclusion. I, therefore, observe in this place only that, according to my conviction, Hegel stands in a much more intimate connection with Kant than is commonly supposed, owing to the facts that between him and Kant are found Reinhold, Fichte, and Schelling; and that Hegel maintained an attitude polemical toward Kant in so many particulars. There is no doubt of this, but the fact is not thereby to be got round that Hegel sought to perfect what Kant had begun. Hegel opposed the *skepsis* as held in the Kantian critique; he maintained that the idea of reason was in a positive sense absolute, and is, in so far, opposed to Kant.

But he agrees with Kant completely—

- (1) In the acknowledgment of reason as the highest principle of all knowledge;
- (2) In the dynamic comprehension of inorganic, and in the teleological comprehension of organic Nature;
- (3) In the acceptance of the superiority of the mind over Nature, in consequence of the spontaneity of self-consciousness and the autonomy of freedom.

He differs from Kant inasmuch as he

- (1) Maintains the idea of reason not only as concerns the idea of the Good, but also as concerns that of the True as a faculty of the Unconditioned. Kant had opposed the understanding to reason as its limit. Hegel made the understanding an overseer of the reason. The Unconditioned is the basis of the Conditioned; the Infinite of the Finite; the Absolute of the Relative. The definitions of thought are absolutely universal and necessary. We have the conception of the Unconditioned, the Infinite, and the Absolute. Why must their reality be restricted to the sphere of the Good? According to Kant, the theoretic reason fails on account of the unavoidable limitation of the categories of the understanding to contradictions which are insoluble. Hegel combats this. He does not deny the contradiction in conceptions, but he affirms that it resolves itself, through its opposition, into a higher unity, which constitutes the productive basis of the antithesis. It was for this reason that he laid so great a stress upon Kant's doctrine of the antinomies. The entire Dialectic of Hegel's method rests upon the thought, that, according to Kant's doctrine as it is, contradiction is unavoidable; but that, in this

case, it cannot be passed over with a merely subjective silence, on account of the alleged imbecility of our knowledge, but that it must elevate itself objectively to that unity which renders it, in the first place, conceivable.

Hegel admits with Kant that speculation cannot contradict experience. He is, therefore, an adversary to all fabricated notions which are so generously advanced in the hypothetical treatment of the sciences, and whose problematic origin is after all entirely forgotten on account of the frequency of their employment. Here belongs, for instance, the conception of an Atom, in so far as it is treated as a matter of fact. Whatever in Natural Science cannot be authenticated in a rational reality as a matter of fact, can on no reasonable grounds be maintained; this is one of the main points which Hegel, in his Nature-Philosophy, especially in his Physics, is never tired of repeating.

Kant had demanded two things for the possibility of experience: in the first place, intuition, and in the second place, the conception of the understanding. Intuition without conception is, in his opinion, blind; a conception without intuition is empty. Both must, as he expresses himself, be combined as constituent parts of cognition in order to produce a judgment. Hegel defended the conception against the charge of emptiness, asserting that it had itself for content; but he resigned the right of experience so little, that, with the exception of Aristotle, Bacon, and Kant, no philosopher has ever paid so much respect to empiricism. Hegel is, like Kant, an idealist in so far as he proceeds from the idea of self-consciousness and reason; but he is, as regards the maintenance of reason in reality, the most decided realist that ever sought to comprehend with the greatest accuracy the world of appearances, in the totality of its multiplicity, and to overcome it, by tracing out its internal connection.

(2) In regard to Natural Science, he agreed with Kant in the principles; he differed from him in the stress which he laid upon the systematic Unity of Nature. In Kant, we do not find Nature-Philosophy as an entirety. His Physical Geography is, considering his time, a very noteworthy attempt at a Cosmos, but is without a strictly scientific method. Hegel's Nature-Philosophy proceeds in an entirely speculative man-

ner from the idea of Nature, but imposes upon itself the duty of proving, in an empirical, matter-of-fact manner, each step of the Idea. No other philosopher of modern times has bequeathed such a complete Nature-Philosophy, with such distinct articulation, and in such close connection with the unity of his entire system. Hegel is seldom considered from this point of view, although it is so directly of importance to our time. Of Fichte, Schelling, as well as of Herbart, Krause, Schopenhauer, and Baader, there exists no Philosophy of Nature as an organic whole, or as a whole adjusted to the rest of their system. The reader must examine the treatment of Nature-Philosophy by Michelet, in the second part of the Encyclopedia, in order to convince himself into how great detail Hegel has carried Natural Science.

(3) In regard to the mind, Hegel originally agreed with Kant in having, on the one side, only a doctrine of consciousness; on the other, only an Ethics. As Kant came to his Anthropology, Hegel at a later period came to his doctrine of subjective mind and to a doctrine of absolute mind, which is represented in Kant partly by the æsthetic faculty of judgment, partly by religion within the bounds of pure reason, without possessing an express consciousness of the systematic relation of these various elements. In principle, Hegel also agreed with Kant as regards the idea of the mind, inasmuch as he comprehends it as a freedom, as an ideal activity, which, as its own content, creates for itself its peculiar form. But, in Kant, the centre of gravitation rests upon morality, while Hegel does not depend in so great a degree upon the power of the individual, but wishes to rear him, by communion with the objective organism of ethics, which he calls *State*, to the state of a man in whom respect for the right laid down as law, i.e. legality, is combined into ethical beauty, with the conscientious adherence to his peculiar sense of the terms Good and Morality. This lofty intuition, connected with Schiller's practical ideas, is the Hellenic trait in Hegel, which however did not lead him to abate a tittle of the sharpness and energy of the Germanic principle of individuality. The moral rigorism of Kant is transfigured by Hegel into a higher ideality reconcilable with Nature. Hegel often appears polemical toward Kant, since he opposes the reality, at which

the ethical idea in the family, in the civil community, and in the state, arrives, to the "infinite progression" of duty. The Good *must be*; in this respect he does not gainsay Kant: but the Good *is* also; and the experience that there are wicked men, that crimes are perpetrated, that outward circumstances turn out sadly for the most moral subjects, does not cancel the fact that the development of History shows us, in general, the effort of mankind to bring the will according to its truth—or, which is the same thing, the Good—into existence. The laws of nations contain the idea, which they form to themselves, of the Good.

"*Res publica*" was defined by Kant as a human commonwealth, in which not the personal caprice of an individual, but law, was the ruling power. The law enforces obedience; but, according to Hegel, the citizen of a state must conform to the law not only outwardly, formally, but he shall recognize in the law the essence of his own freedom, and shall make its realization habitually a second nature, an ethical custom. A mere state, with the coldness of formal enforcement of obedience to the existing law, did not satisfy Hegel; but the laws should animate themselves into the warmth of the self-sacrificing disposition in the will of the individual. The laws (ethical relations) inform us what we must do; we need not trouble ourselves with morbidly poring over the question what our duty may be. The state shall not only be the means of the egoism of our personal security, of our material welfare, of our intellectual culture, but must be through and through the element of self-conscious freedom, and this, in its turn, must be the highest, all-ruling aim.

In the higher spheres of mind—in Art, Religion, and in the History of Philosophy—Kant seems morally confined, prosaic, and inadequate. It is here that Hegel infinitely surpasses him, and not him alone, in sublimity, poesy, and richness of intuition. Notwithstanding all the unfinishedness in which, surprised by death, he was compelled to leave this sphere, a source is contained in it from which science will have for a long time to draw.

These intimations will suffice to show how closely Hegel developed with Kant historically, and wherein the completion of the great work, begun by Kant, was made by him. Hegel

grew by incessant self-criticism. He continually reformed himself. He was polemical towards Kant, only in order to advance upon the ground of criticism to a truer insight. Also in a systematic view he agreed with him principally in order to elaborate him further and better. In his *Architectonics*, in the doctrine of Method contained in the *Critique of Pure Reason*, Kant has given the following classification of his system :

- (1) The Physiology of Pure Reason as the science of that which may be ;
- (2) The Metaphysics of Nature as the science of that which is ;
- (3) The Metaphysics of Morals as the science of that which ought to be.

Hegel names these three divisions the science of

- (1) The logical Idea ;
- (2) Nature ;
- (3) Mind.

Rationalism, Naturalism, Spiritualism, are the elements of the organic whole of Philosophy.

The logical Idea is the Absolute as a formal principle. Thought is the absolute Prius, the absolute presupposition which posits itself from itself, which we express by *reason* since Kant's time. Everything particular, peculiar, is subject to the universality and necessity of the categories of the absolute Idea. Nature and mind are in so far dependent upon reason, for they cannot be imagined at all without it. Thinking, as absolute, contains its own determinations, for which content it presupposes nothing else ; but in relation to nature and mind, it is the presupposition of them as their absolute form. But this is, according to Hegel, not external and existing to them only in the discursive thinking of our consciousness, but is *immanent* in them.

Nature is in itself rational, but it forms, by its externality in space and time, the opposition of the logical Idea, for contingency comes into existence with matter. With contingency, since it is inseparable from existence in space and time, comes into existence also the possibility of irrationality. Nature realizes the conception of the Idea, but it remains contingent in the realization itself, whether the indi-

vidual reality corresponds to the idea, or whether, as it may also be expressed, the conception actually realizes itself. Nature, for example, brings forth in the spring thousands of the most gorgeous blossoms, which ought to ripen into fruit; but a frost blasts them. This is at bottom an irrational occurrence, but is, on account of the externality of existence, entirely possible. Darwin's expression, the Struggle for Existence, is one in itself entirely true, based upon a deep contemplation of nature. Hegel calls it the impotency of nature to hold firm the idea. He does not mean that nature is altogether destitute of power to realize reason, but that the realization of the idea in the individual is exposed to chance. In time and space lies the final ground of all finitude, all incompleteness, all want, all dwarfing. But the possibility of the favor of circumstances also lies in this.

Nature is the medium of the Idea, through which she attains the highest form of her existence, Mind. Mind, says Hegel expressly, is the Absolute. Its idea is, therefore, the real principle of the Absolute. This idea of Mind distinguishes Hegel's Philosophy from all others. It belongs at once to the idea of Mind that it be the thinker, but also that it realize its thinking as volition through the mediation of Nature. Hegel agrees with Kant in considering Mind as essentially free. Nature is, to be sure, existence rational in itself, but existing in unconsciousness. The mind knows what is rational, and makes use of Nature as a subordinate instrument. Freedom is its own absolute end in thinking and willing. In Nature there exists instinct but not will, for to volition belongs the idea of that which one wishes.

The consciousness of man, as of the individual mind, has still unconsciousness as an element in it. The dream is the theoretic; the desire which arises unwished-for is the practical form in which Nature continues itself within the mind. Hegel avoids mentioning God in the paragraphs of the Encyclopedia, because with this word arise at once the various ideas which men have of God in their beliefs. He makes use of the expressions, Idea, the Absolute, the Absolute Idea, the Absolute Mind, in order to satisfy the scientific consciousness. Only in the exoteric observations does he speak of God.

It is doubtful, as far as the *Encyclopedia* goes, whether he intended the Absolute only as a process in Art, Religion, and Philosophy, or whether he intended it also as a subject in and for itself. If we take the first supposition, then what we call God, and what Hegel calls the Absolute Idea, belongs solely to humanity. It is, then, the Absolute Mind in so far as it raises itself to absoluteness. Religion is, then, only an imperfect form of the fantastic idea of the Absolute, which is first truly known in Philosophy. But from the whole design of Hegel's Philosophy it is not to be supposed that Hegel held this view; for in the *Phenomenology of the Mind*, 1807, he says expressly that absolute knowledge no longer changes the content of revealed Religion. Truth is arrived at in it, as absolute, and it depends only upon the completion of the side of certainty through the idea. But he expressly teaches also in his *Philosophy of Religion*, and in his *Proofs for the Existence of God*, that God, as an absolute substance, is also an absolute subject, and, indeed, a subject in itself independent of our opinion and idea.

Mind is also only a mere word; it depends upon what is thought under it; and here the idea of freedom, which is conscious of its reason as of all truth, will forever be the only satisfactory outlet from the labyrinths of Positive Theology, from the false hell of a hypochondriac Pessimism, denying reason, as well as from the false paradise of a eudæmonistic, rotten Optimism.

Both Hegel and Kant taught this outlet, which includes within itself the absolute pain of the deepest self-abnegation.

Finally, as regards the method, the reader can enlighten himself on the correct idea of Hegel's *Encyclopedia* from the following considerations:

Science contains, as a system, the totality of all particular ideas.

These form a series in which one must be first and one last. The progress from idea to idea is in so far a continuous one. One can represent it to himself as without any interruptions. But the ideas have a relation to each other. One is more simple, more destitute of content than another. Subjectively, as a thinker, I cannot understand the higher, richer idea, if I have not understood the lower, poorer one presupposed by it. But

even this connection is the progress of the thing itself. Thus, while the idea *becomes* for me, as the person thinking it, it also assumes a form for itself. The way of the subjective cognition, therefore, can, in order to comprehend the truth, be no other than that of the objective becoming. They both must coincide in Philosophy. This method distinguishes the philosophic consciousness from the ordinary one, unconscious of the idea. I cannot comprehend a surface, if I do not know what a line is; also I cannot comprehend a line, if I do not know what a point is; but I cannot comprehend a point, if I do not know what space is; and I cannot comprehend space, if I do not know what Nature is, etc.

Nature, space, point, line, surface, etc., are a self-explaining series of these ideas. It is not I who place in the absolute continuity of space the discreteness of a point, but it is space which itself determines the discreteness of punctateness; the point is not formed by me into a line, but it is itself, which, by its own motion in space, determines the form of the line, etc.

Every idea is for itself positive, or, as it is also expressed, identical with itself. It is determined in itself. Point is a different idea from space or line; line is a different idea from point or surface, etc.; but the ideas are united by themselves, the one with the other. Hegel calls this the negativity or the self-motion, the immanent nature of the idea. The higher idea is related negatively to the lower, which is presupposed by it as a condition. It cancels it in itself. The negation of negation is hence the universal form, in which the transition from idea to idea appears. The higher idea negates the lower, but also contains it within itself. That which forms the essence of the relatively lower idea is not lost in the higher form. It remains in force as an element of it. It is no longer posited according to its exclusive determinateness existing for itself, but as a necessary element of the higher stage. The point vanishes as a point in the line, but is contained in the linearity *in* itself. A line is, in its continuity, no atomic aggregate of points, but the point is ideally existent in it. When a straight line is cut from another, this can happen only in one point.

This progress is called by Hegel the Idea, which, as being

universal, determines itself to its particularity, as a particular one, to its individualization. The point, compared with the line, is more abstract; it is the wholly universal, elementary, formless form of space-formation. But no figuration of space is imaginable without it. The line is more concrete. As a particularity it is distinguished from itself in the opposing forms of straight and curved, etc.

Every idea is, as thus determined, the result of all that have preceded it as a condition. They are collectively contained in it, but not only as an external sum, but likewise as a concrete unity. The plane or surface, for example, is no mechanical composition of lines, but the line is everywhere possible in it, and forms the boundary of the surface as its inherent element.

Every concept is opposed to two others, whose medium it forms. The line is on the one hand opposed to the point, on the other, to the surface; the surface again is on the one hand opposed to the line, on the other, to the body (mathematically so called). The precise reference, which lies in the idea of the thing, must be held firm in opposition. At its first introduction into a system, every idea can have only one antithesis immanent in it; for instance, the idea of cause and that of effect. But farther on, at other stages, an idea may gain also other relations. One and the same thing can, therefore, be placed in opposition from different standpoints. Nature is opposed to reason, i. e. to the absolute idea in the form of abstract thought, by means of its material externality. But it is also, on account of its unconsciousness and necessity, opposed to the mind as the free, self-conscious causality. It is also opposed to art in so far as it produces the Beautiful unconsciously; art, on the contrary, makes itself consciously its own, and uses nature as a means thereto.

The relatively lower ideas are metamorphosed to a higher existence, in the higher stage of the idea. Art, for instance, comprehends nature, but idealized, i. e. free from all contingency of local and temporal origin.

Hegel said, therefore, and rightly, that science is not only enlarged in its progress, but is also deepened; that with every new definition, it defines the idea of the True more truthfully. Not seldom does he use the expression, that the higher

is the truth of the lower. He would not refuse, thereby, to the latter the reality and truth which belongs to it, at its own stage, but, in comparison with the higher stage, the existence of the idea in the lower form of its being, is not the actual truth. The lower can only be actually understood from the higher, the earlier from the later, in the system according to the series of ideas. Ethics—for instance, the truth of morality—exalts the immediate naturalness of the soul's instincts to that which they should be in themselves.

The progress of the systematic cognition is, in its process, regressive, analytic, inductive, inventive, because it unfolds the absolute idea from the first elementary beginning into definitions more and more precise, and proceeds to that which is the productive basis, the final cause—the *Entelecheia*, as Aristotle expresses it—of all the preceding ideas. But it is likewise progressive, synthetic, deductive, architectonic, because it proceeds from the universal through the particular to the individual and single. The ideas form not only a series, or an arithmetical progression, wherein each has its prescribed place, but also a circle, in which the last definition again meets the first. The first definition of Hegel's system runs, Being is Being; the last, Being is Absolute Mind.

Between these two lie all the others. Hegel's first definition of the Absolute is that of the Eleatics; but it is cancelled by the next in order, "Being is Non-being." This definition is wanting in the Eleatics; for they only said, "Non-being is Non-being." Non-being presupposes Being, but, as a negation, it is likewise. Time, for instance, which, as future, is not yet, is therefore a non-existent; Non-being is its Being. The solution of this antinomy is the idea of Becoming, in which Being as well as Non-being are contained, partly in positive beginning, partly in a negative ceasing. Becoming is the Heraclitic, more truthful definition of Being, which has Non-being as an element of itself, not as an abstract antithesis outside of it.

But it should be borne in mind, that in these discussions Hegel does not treat of a substance, but of thoughts. They are the ideas of Being, Non-being, Becoming, with which the system originates, as with the most universal and most

undetermined definitions of the Absolute. It is very wonderful, and, notwithstanding all the study of the History of Philosophy, anything but a proof of its comprehension, that the beginning of philosophy, as Hegel here presents it, has been so often found untenable, as being a contradiction. For what does the Platonic Parmenides exist? Have not the dialectic of Being and Non-being, the struggle of the extreme Eleatics and the extreme Heraclitans, from all points of view, developed in him? Being is the most universal determinateness, which has no further content; but it is inherent in all the other definitions following it, as the most universal; also that of mind, as of the Absolute. Every other idea, besides that of abstract Being, with which a philosophy begins, demands the presupposition of the idea of Being. For him who philosophizes as a thinking subject, the same is interposed; for the consciousness must be so far formed as to elevate itself from every contingent singularity of its empirical content to the abstraction of the idea of Being. It is this side which pupil and teacher have at first to watch. Before this, the thought cannot recognize itself as thought, it is not able to complete the abstraction of Being; but this pedagogic training of the consciousness to Philosophy falls in the same elementary instruction, and the concept of Being-in-itself is independent of the act of thought, through which it is posited for us. The thought of the idea of Being is the subjective side; the idea itself, the objective side. It may be observed, in numberless statements in these inceptive forms of thought, that the demand for an absolute abstraction is not complied with, when throughout a something, if possible, a sensuous something, but not pure Being, is conjectured or imagined. To be something is a much more precise qualitative definition of Being than Being in general. Or, because the beginning and end touch each other, man makes shift to imagine under Being the Absolute as such, which, according to Hegel, is only possible at the end of the system, as its highest result in the idea of Being, as of the absolute Mind.

With this we might easily conclude these introductory remarks, but still another point merits our attention. It is the triadic form in which Hegel's Philosophy is built up. Hegel himself praises Kant, as the man who has made mention of

the triplicity of the idea. It remained hidden in Kant for this reason, that he acquired late the habit of treating everything according to the four categories of quantity, quality, relation, and modality. But he makes the trichotomy prominent in every category which contains an antithesis and its solution. In quantity, unity is opposed to multiplicity; both are annulled in the totality, as a unity of the many. Thus it happens in quality, with position, negation, and limitation; in relation, with substantiality, causality, and reciprocity; in modality, with possibility, reality, and necessity. In the Platonic Philosophy, as well as in that of Plato himself, and in the Neo-platonic philosophers, we find also the triads of the idea. They are, in so far, nothing new in Philosophy. But Kant brought this form, as that necessary in thinking, to consciousness, without entering upon a further deduction of it. Hegel here follows Kant entirely, since he likewise holds fast Fichte's effort at a deduction of categories, as thesis, antithesis, synthesis. He completed the dialectic of the categories. For their deduction, Kant knew at first only how to aid himself with the idea of time, because he was driven by Hume first to the idea of causality, and, in the transition of the cause to the effect, to the scheme of time. Fichte sought the deduction in the consciousness, inasmuch as the Ego opposed itself to the Non-ego. Hegel banished the schematism of time, as well as the duality of consciousness, from this region. He seized the thought of the idea as of an independent process. One cannot be thought without passing over to the idea of many, opposed to it. In multiplicity, the one is at the same time posited. Multiplicity, as a numeric quantitative unity, is totality. Thus position has in negation its immanent contrary; limitation, i. e. the negative boundary, is likewise positive, etc. There is now no question that philosophers, as soon as they advance from the circle of simple, ontologic categories, as soon as the question in science is upon multilateral ideas, may fall into the most manifold error among themselves, and, therefore, into contradiction. But the method of the philosophic cognition cannot, therefore, leave off the attempt to find the actual triads, because otherwise it were without all rule for the positing of the determinations of the idea. From

the great and most comprehensive articulations of the idea, it must patiently enter upon wider distinctions. Its syntheses must not be mere additions of thesis and synthesis, but must set forth the higher principle, which sends forth the thesis and antithesis. The last is in itself the true first. With reference to us, as Aristotle expresses it, the thesis is the first; but with reference to the reality of the genesis, the last to the cognizant consciousness is the first. This is what Fichte called the synthesis, and what Hegel calls the negative unity of the idea, or the concrete universality. His Encyclopedia remains, therefore, a very important work, even for the future of Philosophy, because it has undertaken to accomplish, with critical consciousness, the idea of its totality according to the triadic form of the idea.

Now-a-days nothing is spoken of except the inductive method. It has for a decided problem its complete justification, and is admitted into Hegel's Logic as an express element of cognition. But when it is presumed that this is sufficient in itself, it is a great error. For the synthetic or deductive form has, at least, the same claim and the same necessity in certain cases. What has science become under the design of proceeding in the inductive method? An entirely methodless, inorganic reflection, narration—an entirely capricious combination—in which the reader must be glad if the authors show that they have not wholly forgotten the principles of formal logic, and, at least, attend to a fixed order. In the titles of books the expression “inductive method” makes a great show; in the preface, a great influence is exerted against the speculative philosophy by it, but in the books themselves people give themselves up to the arbitrariness of reasoning. To such hap-hazard Hegel's method forms a strong contrast. Hegel utters, in a popular manner, by means of his method, the discipline of thought in these words: “Man must know what men have said; but (he adds,) this is not so easy as people imagine.”

THE PHILOSOPHY OF ARISTOTLE.

Translated from the German of G. W. F. HEGEL.

III.—THE PHILOSOPHY OF NATURE.

Of the special sciences which Aristotle has treated, the **PHYSICS** contains an entire series of works on physical subjects which form a tolerably perfect arrangement of the material constituting the entire compass of Nature-Philosophy. We will give the general plan. His first work is his *Physical Science, or Concerning Principles* (*Φυσική ἀρχαίαις ἢ περὶ ἀρχῶν*), in eight books. He treats therein of the comprehension of the idea of Nature in general—of *Motion*, and of *Space* and *Time* as it belongs to it. The first manifestation of the Absolute Substance is **MOTION**, and its moments are space and time; this idea of its manifestation is the universal, which realizes itself first in the material world, passing over into the principle of individualization. Aristotle's *Physics* include what is called by the physicists of the present day the *Metaphysics of Nature*; for our science of *Physics* includes a treatment only of the visible, and of the delicate and excellent instruments they have made—not what has been *thought* about the matter. Directly after this first work of Aristotle follow his books concerning the heavens, which treat of the nature of body in general and of the first real bodies—the earth and the heavenly bodies; and besides this it treats of the general abstract relation of bodies to each other through mechanical heaviness and lightness, which we call *attraction*; finally, of the abstract real bodies, or the *elements*. Then follow the books upon origination and decay, the physical process of **CHANGE** (previously the *ideal* process of motion was considered). Besides the physical elements, those moments also enter here which are posited in the process as such: heat, cold, &c. The former elements are the real, permanent side; the latter determinations are the moments of beginning or ceasing which occur only in motion. After this follows the subject of *Meteorology*; it exhibits the general physical process in its most real forms. Here are treated particular determinations: rain, saltness of the sea,

clouds, dew, hail, snow, frost, wind, rainbow, boiling, cooking and baking, colors, &c. Upon some subjects, e. g. colors, Aristotle wrote separate treatises. Nothing is forgotten; still the exposition is very empirical. The book on the World, with which he concludes, is held to be spurious: a special treatise addressed to Alexander, in part contains the general principles of things such as are already found in another place, and hence it does not belong in this cyclus.—From this Aristotle passes over to the treatment of Organic Nature; and among his works are found not only a Natural History, but also a Physiology and Anatomy. To Anatomy belong his works concerning Locomotion, and concerning the Parts of Animals. Upon Physiology, he speaks in the writings concerning the Birth of Animals, and concerning the Common Movement of Animals; then he treats of certain distinctions—of youth and old age, of sleeping and waking; he speaks of breathing, of dreaming, of the length of life, &c.,—all of which he treats partly empirically, partly speculatively. Finally, there follows the History of Animals; not, however, merely as Natural History in the ordinary sense, but rather as a treatise of animals in general—a sort of physiological-anatomical anatomy, if the expression may be allowed. Besides this, a botanical treatise upon plants (*περὶ φυτῶν*) is ascribed to him. Thus we see here Natural Philosophy in the entire completeness of its external content.

As regards this plan in general, there is nothing said to show that it is or is not the necessary order in which natural philosophy or physics must be treated. For a long time physics has retained this form and tendency, inherited from Aristotle, to deduce the parts of science from the idea of the whole; so that even the non-speculative method has retained this connection as external arrangement. This order is to be preferred to the arrangement in vogue in our physical textbooks: they present a quite irrational succession of objects heaped together at random, and indeed this is more in accordance with that mode of consideration of nature which seizes upon the sensuous phenomena of nature quite without comprehension and reason. At an earlier period physics contained still something of metaphysics; but as experience

showed that they were not able to come to an agreement in that field, the physicists have resolved to hold aloof from it as much as possible, and to hold fast to what they call "experience." For they suppose that they obtain in the field of experience the pure truth uncontaminated with thought, fresh from the hand of Nature, in their grasp and before their eyes. Although they cannot do without the IDEA, yet they have a way of letting pass as current coin, through a kind of silent assent, certain ideas such as "Composition from parts," "Forces," and the like, and use them without in the least knowing whether they have any truth, and in what it consists. As regards the content, however, they fail to express the truth of the object, but give only the sensuous phenomena. Aristotle and the ancients, on the contrary, understood under physics the comprehension of the idea of Nature—the Universal; and on this account it is called by Aristotle the Science of Principles. For in the natural phenomenon there enters essentially this distinction between the principle and its result (the result is the phenomenon), which vanishes only in what is really speculative. However, if on the one hand the physics of Aristotle is preëminently philosophical—not experimental, yet on the other hand the empirical is found in due measure. As has already been remarked when speaking in general of the Aristotelian philosophy, the different parts fall asunder into a series of ideas each defined by itself; such is here the case, and on this account we can speak only of each in its details. The relations of one to another are not unfolded; for each is treated as existing for itself. But in descending into details Aristotle proceeds beyond the sway of the [universal and necessary] idea, and his treatment becomes a superficial manipulation of grounds and reasons, and an explanation of proximate causes, such as we have in our science of physics.

As regards the general idea of Nature, it must be allowed that the same is exhibited by Aristotle in the highest and truest manner. In the idea of Nature according to Aristotle (Phys. II. 8) two determinations are found: the concept of *final cause*, and that of *necessity*. Aristotle seizes an object in its ground; this gives us the time-honored antinomy

or twofold point of view arising from the opposition of the category of NECESSITY (*causæ efficientes*) to that of CONFORMITY TO END (*causæ finales*). The first mode of consideration [according to efficient cause] is that according to *external necessity*, which is the same as contingency: in general, the objects of the natural world are apprehended as determined from without through natural causes. The second mode of consideration is the *teleological*; but conformity to end is either internal or external, and in modern thought the latter has for a long time been dominant. Thus the mode of consideration varies according to the stand-point assumed, and on one occasion it seeks external causes, while on another it uses the form of external teleology, which posits the end [purpose and design] outside of the natural. These determinations are well-known to Aristotle; he examines their essential nature to see how far they have validity. Aristotle's idea of nature is, however, more excellent than the one current in our time; for the chief thing with him is the category of the FINAL CAUSE as the internal determinateness of natural things. Thus he has apprehended nature as LIFE, i. e. as that which is final cause in itself and unity with itself; living being does not pass over into another, but determines, through this principle of activity, its changes in conformity to its peculiar content [or purpose], and hence preserves itself therein. Aristotle has in this view before him the internal, immanent conformity to design, and he considers Necessity to be only an external condition to this. On the one hand, therefore, Aristotle defines nature as the final cause, which is to be distinguished from fortune and accident: through this definition, it seems to be the opposite of necessity, which it contains also in it; *secondly*, he defines the manner in which Necessity appears in natural things. The term Nature one ordinarily thinks to include Necessity, and understands the Natural to include what is not determined through design. Nature has for a long time, according to the current belief, been defined philosophically and in truth as the province exclusively under the sway of Necessity. The view of Nature becomes defective, according to the common notion, when it allows the validity of the category of design or final

cause. The two moments of substance which we have considered, the *active form* and the *matter*, correspond to these two determinations.

We have first to consider the idea of conformity-to-end [adaptation to a purpose] as the ideal moment of Substance. Aristotle (Phys. II. 8) sets out from the proposition that the Natural is the Self-attaining; the difficult point consists in understanding this statement. "The first difficulty is this: what hinders Nature from acting according to a purpose, and that the best one? Jupiter rains not in order to make the corn grow, but from necessity. The rising vapor cools and falls as rain; it is therefore incidental that the corn flourishes. So also when the corn is destroyed by rain; the rain does not happen for this purpose, but the destruction is only an accident." That is, the connection is not a necessary one, but only an external one. This contingency pertains both to the cause and to the effect. Aristotle asks: "If that is the case [universally], what hinders us from assuming that what appears to be a part," for example, of an animal, "could really stand in an accidental relation also? That, for example, the front teeth are sharp and adapted to cut well, while the back teeth, on the contrary, are broad and fitted to crush the food—that this coincidence may be a mere accident without design. And so with the rest of the parts in which adaptation seems to exist; so that in this case the vital organism, in which all was so constituted in a contingent manner that it arrived at a conformity to purpose, now that it once exists, preserves itself, indifferent to its original origin from external necessity." This thought, adds Aristotle, was that of Empedocles, and according to it the first origin was depicted as a world peopled with monstrosities—e. g. the bodies of bulls with human faces—which shapes, however, could not endure, but perished, for the reason that no self-preservation could exist until the parts in conformity to a purpose had found each other; how, without these fabled monstrosities of the ancients, can we explain the multitude of animal races that have perished through inability to preserve themselves? In this way, moreover, the expression "progress" (a thoughtless form of development) is used in our modern philosophy of Nature. This is an idea at which a system of Natural Phi-

losophy easily arrives: that the first productions of nature are mere essays or attempts, none of which could abide that lacked conformity-to-purpose. [The reader will think of Darwin's "Natural Selection" here.] Nature, however, as Entelechy [self-end] is that which produces itself. Aristotle, therefore, replies [to the idea of Empedocles], "It is impossible to accept this idea. For that which happens in Nature, happens always or nearly always the same" (the external universality as constant return of what has disappeared); "but nothing which is through accident or chance reproduces itself. In the next place, that which contains a purpose (*-τέλος*) conforms to this as well in its antecedents as in its consequences: so that the nature of the thing may be inferred from its constitution, and conversely its constitution from its nature; this follows from the idea of design." We call that the nature of a thing which becomes manifest through the becoming of a thing; it is the internal universality and adaptation to a purpose which realizes itself; so that cause and effect are really identical, since all the particular members are related to this unity of design. "Whoever assumes an accidental origin of things denies, in so doing, Nature and the natural order of things; for the Natural involves the possession of a principle in itself, by means of which a continual progress is made until the attainment of its end and aim." In this expression of Aristotle is contained the adequate, true and deep idea of *living organism*, which must be regarded as self-end: a self-identical which repels itself from itself, and in its externality still remains identical with its idea,—and hence is the self-attaining idea. Leaves, blossoms, roots, are produced by the plant and it by them; they produce the seed, and yet they presuppose the seed as their own origin. The chemical product seems, on the contrary, not to presuppose itself in such a manner, but rather to be a third produced from an acid and a base; yet even here the general essence of the two sides, their affinity, is extant beforehand, though as mere potentiality, while in the product it is mere *thing*. The self-preserving activity of life, however, produces this unity in *all* its relations. These statements agree substantially even with the assertions of those who do not take this view of nature. They say, for example, that is preserved

which is constituted as though it were conformable-to-design. For this is nothing but the self-producing act of nature. In the modern style of looking at life, this idea has been lost in a twofold way: first, through a mechanical philosophy which posits pressure, impact, chemical relations, forces, or some sort or other of external relations, as the basis; and though these are immanent to the nature, yet they do not flow from the nature of the body, but are a sort of appendage, as external as coloring matter in a fluid. Secondly, the theological system of Physics sets up the thought of a supramundane intelligence as cause of nature. The idea of Aristotle which has been stated above was first reestablished by the Kantian philosophy, at least so far as the organic realm is concerned, and the living organism is therein pronounced to be the self-end. Although this takes only a subjective form with Kant (his whole philosophy, indeed, has only a subjective form), and hence the living organism [vitality] would thus be defined [i. e. as self-end] only for our subjective reasoning, yet there is contained in this view the adequate truth that the organic form is the self-preserving. That the most recent times have returned to the rational view of this subject, is nothing else than a justification of the Aristotelian idea.

Aristotle characterizes this final cause which the organic manifests, and speaks of it in relation to the means which it uses (Phys. II. 8): "If the swallow builds her nest, the spider spreads his net, trees extend their roots in the earth for the sake of nourishment, then there exists in them such a self-preserving cause or a final cause." This instinct of action, namely, produces a work for its own preservation, as a means through which its essential nature is joined to itself and reflected into itself. Aristotle next brings what is here stated into relation to general ideas which he had already established previously: "Since nature is twofold, as matter and form, the latter [form] being the end and aim on account of which all changes occur, nature is final cause." The active form has, namely, a content which as content of the potentiality contains the means which manifests itself as conformable to the design, i. e. as moments posited through the particular idea. With how much soever repugnance one

may contend, in the modern way, against the idea of an immanent final cause, yet he must always acknowledge the existence in animals and plants of such an idea which preserves and restores itself in its other. For the reason that the animal, for example, lives in water or in air, he is so constituted that he may sustain his existence in air or water; thus, for example, the gills of the fish are adapted for water, the lungs of the mammal for air; and conversely, for the reason that he is so constituted—i. e. for air or water—his habitat is determined. This activity of transformation, therefore, does not belong to living beings as an accidental affair; it is excited by the external potencies, but only in so far as it is in conformity with the soul of the animal.

In this connection, Aristotle institutes a comparison between Nature and Art. Art also connects antecedents and consequences with a link of design. "A mistake can be made by Nature as well as by Art; in the same way that the grammarian at times writes false syntax, or the physician mixes a potion incorrectly, so Nature at times misses the achievement of what she proposes. Her failures are monstrosities and abortions,—which, however, are only failures when considered as the product of a designing cause. The marriage of animals or plants is productive first of mere seed, and corruption is still possible when in that state." The seed is, namely, the means, and it has not yet reached the state of Actuality, which is free, firm, independent, and indifferent. In this comparison of Nature with Art, it is customary to place before one the external conformity to design, the teleological view, the acting according to purposes: and against this view Aristotle speaks decidedly when he remarks further, that if Nature were mere activity according to a purpose, "then it would be absurd to refuse to think of action in conformity to design for the reason that one cannot see the moving object stop and consider." The understanding enters with the conception of this final cause, and with its tools works upon this idea of matter; we carry over this idea of external adaptation to a design, to Nature. "But," says Aristotle, "Art does not take counsel any more than Nature. If the form of a ship were the inner principle of the wood, then it would act from nature. The act of nature resembles

that practice of art most nearly, wherein one cares for his own preservation." Through internal instinct the animal fears danger and acts for his own safety; health is, therefore, essential in him, yet not as conscious purpose, but as an intelligence fulfilling its ends without conscious thought.

As Aristotle here contends against an external teleology, he likewise makes a correct remark (Phys. II. 9) against the mere external necessity; through this we come to the other question: how necessity exists in nature. He says: "They usually think of the origin of necessity somewhat as if one should suppose that a house is through necessity for the reason that the heavy is placed underneath and the light on top, so that the foundations and the rocks are placed lowest and then the earthy matter, and lastly the wood above all because the lightest." Aristotle, however, defines the relation thus: the house though it cannot be *without* this material, yet is not made *for* this material, but rather for the shelter and protection of many people. This is the case with everything that has a purpose in itself; it does not exist without relation to what belongs to its nature as necessary thereto; but it does not exist on account of the requirements of the material, but rather on account of a final cause. The Necessary is, therefore, only as presupposition and not as final cause; the final cause lies in the ground [*λόγος*, cause or reason], while the necessary lies in the material. It is therefore clear that necessity in natural things is limited to matter and its movements; each [matter and final cause] is to be posited as a principle, but final cause is the higher principle." The principle of necessity must be present, but by itself it does not suffice to give itself occasion to act, but is itself restrained by external necessity. The principle of matter is thus inverted in the true moving ground of the final cause, which is the inversion [opposite] of this principle of necessity, and therefore the natural preserves itself in the final cause. Necessity is the objective manifestation of the activity of its moments as sundered; as in the Chemical the essence of the two extremes, base and acid, is the necessity of their relation.

What we have given is the chief idea of the Aristotelian Physics. The remaining parts of the treatise relate to the ideas of different objects in nature, a task for Speculative

Philosophy involving the consideration of those subjects mentioned at the beginning of this chapter. Aristotle leaves on these subjects many deep and difficult speculations. He first proceeds to the subject of motion (*κίνησις*) and says: it is necessary that a Philosophy of Nature treat of this, but it is hard to comprehend; in fact, it is one of the most difficult of ideas. Aristotle then discusses motion in general, not merely motion in time and space, but also the real motion [i. e. self-motion]: he defines it as the "activity of a thing existing according to possibility so far forth as it is such." This he explains as follows: "Metal is the possibility of a statue; but the movement requisite to become a statue is not a movement of the metal *as metal*, but rather a motion of the same *as possibility of becoming the statue*. On this account, this activity is an imperfect (*ἀτελής*) one, i. e. it is not "self-end"; "for the merely potential, whose activity is motion, is imperfect." The absolute substance, the unmoved mover, which is the existing cause of the celestial movements, and which we lately considered as final cause, is, on the contrary, both the activity itself and the content and object of the activity. From this, however, Aristotle distinguishes that which falls under the form of antithesis: "The mover is also moved when it possesses motion as a [mere] potentialty and its not-motion is rest. That in which motion takes place possesses not-motion as rest; for the activity of that which is at rest is motion": rest is, namely, potentiality to be moved. "For this reason movement is the activity of the movable (*κινητοῦ*),* in so far as it is movable; this, however, happens through contact with a mover (*κινητικόν*), so that the former [the movable] is passive. But the mover always introduces a sort of final cause (*εἶδος*), either a what (*τόδε*), or a quality, or a quantity, which is the principle and cause of the motion when it moves anything; for example, the man existing according to activity produces a man from the potentially existing man. In this way, therefore, is movement

Note by Professor Michelet, the German editor.—"Aristotle distinguishes four determinations: (1) the moved potentially, or the movable (*κινητόν*); (2) the moved actually (*κινούμενον*); (3) the potential mover (*κινητικόν*), which Hegel calls further on "*das Bewegliche*"; (4) the actual mover (*κινούν*); It were, perhaps better to translate *κινητόν* by *Beweglich*, and *κινητικόν* by *Bewegerisch*."

in the movable; for it is an activity thereof, and this activity proceeds from the potential mover; and the activity of the potential mover is no other [than that of the movable, i. e. there is one activity to both], the activity involves both [mover and movable]. The potential mover is the activity as potential, the actually moving mover is the same in activity: but it is the active impulse of the movable (*ἔστιν ἐνεργητικὸν τοῦ κινητοῦ*), so that there is only one activity to both; just as the relation of one to two and of two to one is the same—or just as the stairs are ascent and descent at the same time, and the way from Athens to Thebes is the same as the way from Thebes to Athens. Thus activity and passivity are not originally (*κυρίως*) the same, but are the same in movement. According to being (*τῷ εἶναι*) they are identical; but the activity in so far as it is an activity of this *in* this [i. e. in the moved], and the activity of this *by* this [by the actual mover], differ in idea (*τῷ λόγῳ*). Aristotle next discusses the Infinite (Phys. III. 4–8).

Aristotle then speaks of place (Phys. IV. 1–5): “It is likewise necessary that the physicist investigate the idea of location (*τόπος*)”; here appear many different determinations; among them are *space* in general and definite space, or *place*. “Is space a body? No; for in that case two bodies [the body and its place] would be in one and the same place. Moreover, if it were the place and location (*χώρα*) of *this* particular body, it were evidently that of the surface and other limits; but the same reasoning could be brought up for the opposite, since where before the surface of the water was, now might be that of the air,”—thus the two surfaces have the same place. In truth, however, there is no difference between a point and its place; and so, too, place is not different from other forms of limit, nor is it something external to them. It is not an element, nor does it consist either of corporeal or of incorporeal elements; for it has magnitude, but nothing corporeal. The elements of bodies are corporeal, for no magnitude can originate from mere intelligible elements. Place is not the matter of things, for nothing consists of mere place; neither is place the form, or the idea, or the final cause, or the moving cause; and yet is something.” Aristotle then defines location to be the first unmoved limit of what includes;

it includes bodies whose place it is, and to it pertains nothing of the thing it includes; yet it is coextensive with the object since the limits and the limited are together [coextensive]. The extreme ends of the including and the included are identical, and hence also both limits are the same; but they are not limits of the same, for the *form* is the limit of the object, and the place that of the including body. Place as the including remains in unchanging rest while the object is removed; it is, therefore, separable from it. In other words, Place is, according to Aristotle, the limit, the negative of a body, the positing of difference, of discreteness; but it likewise belongs to the including body as well as to the included: hence there is no difference there, but unchangeable continuity prevails [the limit is the connecting and identity as well as the separating and negating]. "Place is either the universal (*κοινός*), in which all bodies are" (the celestial space); "or the particular (*ἰδιος*), in which they are as in their origin." Aristotle speaks also of above and below in space, relating the same to the celestial regions as the containing, and the earth as the lowest: "In space there is a body outside of which is an including body. The entire heavens is not in a place, for no body includes it. There is nothing external to the universe, all is contained in the heavens; for the world is the whole. But place is not the heavens; it is only the outermost limits at rest which touch moving bodies. Therefore the earth is in water, the water in air, the air in ether, the ether in the heavens."

From this Aristotle (Phys. IV. 6-7) proceeds to consider empty space,—an old question upon which physicists of our day cannot agree: but it is all the same to them whether there is any thought in existence or not, or whether or not Aristotle ever studied the question. "The void is, according to the common notions of men, a space wherein there is no body. And since they take the corporeal for the existent, they call empty space that wherein nothing exists. The assumption of an empty space has its reason chiefly in the fact that a void [the negation of an existing mode of being] must be posited as the necessary condition of movement; "for a body cannot move in a *plenum*," there must be a void before it. "The other argument for the void is found in the elasticity of bodies,

which is possible through the existence of pores." This is that current notion that difference in density is to be explained through separation of the atoms, the difference in volume of two bodies of equal weight but of unequal size being due to the amount of void space between the atoms, the atoms being held to be all of equal size and weight. Aristotle refutes this explanation very neatly, and in a general form: "The plenum can be changed, and bodies can yield to each other even when no empty space separates them. Bodies, fluid as well as solid, are condensed not into the void, but through the expulsion of that which is contained in them, just in the same manner as air is expelled when water is compressed.

Aristotle speaks more profoundly on this subject when he combats the position that *the void is the cause of motion* (Phys. IV. 8). He shows that the void rather annuls motion, and that, accordingly, in the void there would be universal rest: the void is the perfect indifference into which a somewhat might move more or less; in the void all differences vanish. It is the pure negation, no object, no distinction: hence no ground or reason for standing still or for going further. But body is in motion, and it has thus distinctions; hence it has a positive relation and not to a mere nothing. On the other hand Aristotle refutes the other reason for the existence of a void, namely, that bodies yield. But one cannot establish a void in this way: there would not be one motion, but a motion in all directions—a general going to pieces, an absolute yielding, in which no coherence remained for the body. "Moreover, a weight or body is affected in its motion by two causes: the variation of the medium through which it moves, as air, water, or earth; or through its own constitution—having an excess, it may be, of weight or a deficiency of it." As regards the relation of motion to the density of the medium, Aristotle says: "The medium through which the body moves is a cause in so far as it retards—to the highest degree if it moves in the opposite direction (less if it is at rest) and is not easily divisible. To the variation of the specific gravity of the medium, air and water, the variation in velocity has the same relation; so that if the medium becomes twice as rare the velocity doubles. The void has no such relation to body, however, as if the latter were specifi-

cally heavier. Body exceeds the void in magnitude just as little as the line does the point, when the line is no combination of points. The void has no relation to the plenum." As regards the other case, the difference between heavy and light, which should be considered, in bodies themselves: the former move swifter than the latter in the same space; "but this characteristic holds good only in the plenum, for the heavy body divides the plenum more rapidly by its force." This view is quite correct, and is directed chiefly against numerous ideas that prevail even at the present day. The idea of like movement of heavy and light, as well as those of pure gravity, pure weight, pure matter, is an abstraction referring the difference to the accidental resistance of the air.

Aristotle comes (Phys. IV. 9) now to the *second* point, the assertion of the void against the distinction of specific gravity. "Many suppose the void to exist because of the existence of loose and firm bodies": the former is to be a porous body and the latter to be a perfectly continuous one; or they are distinguished from each other (still quantitatively) through greater or less density. "If, namely, a mass of water becomes air, then a certain amount of water must give a mass of air of like magnitude, or else there must be a void space; for only through this are condensation and rarification conceivable. If now, as they say, the less dense were that which is separated by many void spaces, since the void cannot be divided any more than space can have intervals, [in which there is no space,] nothing could be condensed. If, however, it is not divisible, and there still should be something void in the body, then, in the first place, there will be posited only upward movement; for the less dense is the light, and on this account they say also that fire is rare," i.e. because it always moves upward. "Then the void cannot be the cause of motion, because in it something is moved, just as in hose which carry up what is attached to them. But how were it possible that the void should move itself, or that there were a location for the void? For the place from which it moved would be the void of the void. At all events as there can take place no motion in the void, so also the void cannot be moved." Aristotle establishes the true nature of the object in opposition to these ideas, and everywhere sets up the ideal view of

nature: "That the contraries heat and cold and the other physical contraries have one and the same matter, and that from what exists potentially there arises what exists actually; and that matter is not divisible when it has the attributes of the idea,—and that it remains one and the same as regards number when it obtains color, heat, and cold. Likewise the matter of a small body is the same as that of a great one, since from a smaller a greater one is easily made and *vice versa*. If air is made from water, expansion occurs; the matter remains the same, however, without addition: but what it is potentially, it becomes actually. So likewise if a large volume of air is compressed there arises the opposite of the result before mentioned, and air becomes water, since the material of the two is potentially the same." Aristotle also asserts that the increase and diminution of heat and its transition to cold is no addition or withdrawal of caloric matter; also that dense and rare are one and the same. These ideas are very different from those entertained by physicists, who are prone to explain all variations of the kind by addition of matter, and to consider specific gravity as owing to the number of atoms a body contains. Aristotle, quite the contrary, takes this all dynamically—using the word in a sense very different from that current at the present day, namely as a synonym for intensity or degree;—he posits intensity in its correct sense of general potentiality. The difference must, of course, be still one of magnitude, but not as an increase or diminution, or as a change of the absolute mass of matter. But intensity means here *force*, and this again not in the sense of an abstract entity separated from matter; but in such a manner that if something becomes more intensive, its actuality has been diminished, but its potentiality increased. It is then indifferent whether greater intensity or greater extension is posited: a larger volume of air can be warmed to a given degree as well as a smaller volume, provided the heat is more intense; or the same volume of air can be heated to a more intense degree by that means.

"In the investigation of Time, Aristotle remarks (Phys. IV. 10–11, 13) that if one considers it externally (*ἐξωτερικῶς*) one must arrive at the conjecture (*διαπορεύσαι*) that time has no being, or it must be scarcely less (*μόλις καὶ ἀμυδρῶς*) than a

mere possibility. "For one side of time has been and is not, the other will be and is not; of these two sides, however, the infinite and ever-existent (*ἀεὶ λαμβανόμενος*) time consists. Now, however, it seems as though time were impossible if it consists of that which is not. For of each thing that is divisible, if it exists, some or all its parts must be. Time is now, indeed, divisible; some parts, however, are past, some will be, and there is no part present. The now is not simply a part: for a part has a measure, and the whole must consist of parts; time, however, does not consist of Nows." Because the Now is indivisible, it has no quantitative determination which could be measured. "Likewise, it is not easy to distinguish whether the Now abides the same, or is another and another forever. Moreover, time is no movement and change; for movement and change exist in a thing that is moved or changed. But time is the same everywhere. Change and movement is also slower or swifter, but time *not*. It is, however, not without change and movement" (which is nothing but the moment of pure negativity in the same): for where we perceive no change, there seems to be no time,—as in sleep. It is hence in movement, but is not it itself." Aristotle defines it thus: "We say then that time is, if we mark the before and after in motion; these are determined in such a manner that we take them for another and another, and between them again another as middle. If we now think the two extremes of the syllogism as another than the middle, and the soul speaks of the Now as two, the one the previous, the other the following; then we say, this is time. Whatever is determined by the Now we call therefore time; and that is the fundamental characteristic. But if we perceive the Now as one, and not as the before and after in motion, nor as the identity of something earlier and later, there then seems to us to have been no time because no motion. Time is therefore the number [measure] of movement in respect of the before and after; it is not movement itself, but it exists in so far as movement has number. The measure of more or less is through number, but that of the greater or less motion is time. But we call number as well that which is counted as that with which we count; time, however, is not number with which we count, but which is counted, and like motion is always another. The

Now is what the unity of number is, and measures time. The whole time is the same; for the Now which was is the same as the present (the universality as extinct "Now"), but in respect of being it is another. Time is, therefore, through the Now, as well continuous (*συνεχής*) as discrete (*διηρηται*). Through this it resembles the point: for it, too, is the continuity and discreteness of the line—its principle and its limit; but the Now is no abiding point. As continuity of time the Now unites the past and the future; but it likewise divides the time potentially,"—the Now is only divisibility and the moments are only ideal, "and in so far as it is a given one it is always another; it is, however, in so far as it connects, directly always one and the same. Likewise in so far as we divide the line, there arise for our thought other and again other points; in so far, however, as it is one, it is only one point. Hence the Now is in part the division of time potentially, partly the limit and unity of both," namely, of the fore and after. The universally dividing point is as actual only one; but this actual one is not a one at rest, but ever and again another, so that the individuality possesses universality as its negativity. "For the division and the union are the same, and according to one and the same; its idea (*τὸ εἶναι*) is, however, a different one. In one and the same respects are immediately absolute opposites posited as existing. In space, conversely, the moments are not posited as *existing*, but in it first appears this being and its movement and contradiction. The principle of identity set up by the understanding is therefore not at all the highest principle, according to Aristotle; but identity and non-identity is according to him one and the same. Since the Now is only now, the past and future are different from it: but they are likewise necessarily connected in the Now, which is not without fore and after; hence they are in one, and the Now as their limit is just as well their union as their distinction.

Aristotle (Phys. V. 1) proceeds to the consideration of the realized movement in things, to CHANGE (*μεταβολή*) or to the PHYSICAL PROCESSES—our consideration having been previously the pure movement. "In movement there is a mover and a moved, and a 'wherein' or time: besides this, a 'whence' and a 'whither.'" "For all movement is from something and

to something; but the first moved and the 'whither' and 'whence' it is moved are different: for example, *wood*, *heat*, and *cold*. The motion is in the wood, and not in the form; for the form moves not nor is moved,—neither do place or magnitude: but" (in the order as they follow) "they [form, place, and magnitude] are moved, and mover, and the goal of of the motion. That is called change which is rather the 'whither' than the 'whence.' Therefore also the ceasing in nought is called change, although that which ceases changes from being: and the origination of a thing is called change into the existent, though it be from non-existence." This remark is intended to signify that the relation of "whither" enters first in the real-becoming movement, i. e. in CHANGE proper; while the relation "whence" is that wherein change is still the mere ideal of motion. Besides this first form of distinction between movement and change, Aristotle adduces another, when he comes to classify change into three kinds, to wit: (1) change from a subject (*ἐξ ὑποκειμένου*) into a subject; (2) from a subject into a non-subject; (3) from a non-subject into a subject." The fourth, namely, "from a non-subject into a non-subject," which might be suggested by the mode of the general division, is no change; for it contains no contrast." It can indeed be thought as ideal, but Aristotle has reference to the actual phenomenon. "That from a non-subject to a subject is production (*γένεσις*); that from a subject to a non-subject is decay (*φθορά*); that from one subject to another is motion proper," because the subject in transition remains the same, and there is no becoming-other [alteration] of the actual, but a merely formal becoming-other [alteration]. This contrast of materialized movement as change to merely formal movement is worthy of note.

Aristotle comes in his sixth book to the consideration of the Zenonian dialectic relating to movement and change, namely, to the infinite divisibility. Aristotle solves it in this general way: it is shown to be nothing but the contradiction formed by the self-opposition of the Universal; the unity in which the moments are cancelled is not a nothing, (in which case the movement and change would not be,) but a negative universal, in which the negative is posited as affirmative again; this is the idea of divisibility.

Of the further details into which Aristotle goes I will quote only the following. Against the doctrine of atoms and their movement he remarks (Phys. VI. 10) that the indivisible has no movement and change; which is used to disprove that Zenoian proposition that there is only simple indivisible being and no movement. For as Zeno argues from the indivisibility of the atom against movement, so Aristotle argues from movement against the atom: "all that moves or changes is in the first part of time here, and in the last there. The atom as simple, indivisible being, however, cannot occupy two points of space, because it would be divisible in that case. The indivisible could thus be moved only on condition that time consisted of Nows; that this is impossible we have already proved." Thus, since the atoms have no change in them, and cannot have it from without through contact, &c., they are entirely without truth.

Next the pure ideality of change is an important point. Aristotle (Phys. VII. 3) says on this: "That which is changed is only the sensuously perceivable (*αἰσθητόν*); and the forms and shapes, as well as the properties are not changed: they originate and vanish in things, but do not change." In other words: the content of change is unchangeable; change as such belongs to the mere form. "Virtues or vices belong, for example, to accomplishments. Virtue is the perfection (*τελείωσις*) through which something has attained the aim of its nature; vice, on the other hand, is the failure and non-attainment of the same. They are not changes; but they begin and cease only when something changes." That is to say, the distinction becomes one of being and non-being, a merely sensuous distinction.

From these ideas Aristotle (Phys. VIII. 6, 8-9; De Cœlo, I. 4) comes to the first real or physically existent motion: the first principle of motion is itself unmoved. An infinite straight-lined motion is an empty abstraction; for motion is necessarily a tendency to something. The absolute motion is a circular motion, because it is without antithesis. For since motion is to be considered in relation to its starting point and to its final cause, it is evident that the directions from A to B and from B to A in the straight line motion are opposed; but in circular motion they are the same. The idea that the celestial bodies would move for themselves in straight lines, if

they had not chanced to come into the sun's sphere of attraction, is an empty opinion far removed from the thoughts of Aristotle.

Aristotle shows next (*De Cælo*, II. 1 ; I. 3) that the entire heavens neither originated nor is capable of ceasing, but is one and eternal: it has neither beginning nor end in eternal time, but contains infinite time in itself." All other ideas which are used to predicate of essence are sensuous; and in them there is always contained precisely what they meant to exclude. If they, namely, posit the void as existing before the commencement of all origination; in reality this very void is nothing else than the quiescent self-identity, i. e. the *eternal matter* which is thus already posited before the origin; for they would not say that before the origin there was nought. In fact, however, something first is in its origination, i. e. movement is necessary to the existence of something; and where reality is, is movement. But they do not bring together that void, the self-identical unoriginated matter, and this nothing. "That which has this absolute, circular motion, is neither heavy nor light; for the heavy is that which falls and the light that which rises." In modern physics, on the contrary, the celestial bodies are held to possess gravity, and would fall into the sun, but do not do it by reason of another force. "It is indestructible and uncreated, without increase or diminution, without any change. It is different from earth, fire, air, and water; it is what the ancients called ether, as existing in the highest regions, continually running its course (*ἀεὶ θεῖν*) in infinite time. This ether seems to be the eternal matter, but is not expressed definitely as such, and it remains fixed like our idea of the heavens. Here we begin to find the juxtaposition of different ideas hold more and more sway over their proper subordination.

Aristotle (*De Cælo*, III. 6) shows further, that the elements do not arise from one body but from each other; for in their origin they spring either from an incorporeal source or from a body. In the first case they would arise from the void, for that is the immediate incorporeal; in that case the void would have to exist for itself as that in which definite corporeal existence takes its origin. But the elements, according to the supposition, do not spring from what is corporeal; otherwise

there would be a corporeal element existing before its elements. Hence the conclusion remains that the elements sprang one from another. Upon this it is to be remarked, that Aristotle understands by "origin" *actual* origin,—not the transition from the generic to the individual, but the origin of a determined corporeal, not from its ground, but from contraries as such. Aristotle does not consider the Universal as possessing the negative in itself; otherwise the Universal would be precisely the absolute matter whose universality as negativity is *posited*, or *real*.

Further on, Aristotle comes (*De Cœlo*, IV. 1–5) also to a kind of deduction of the elements, something very remarkable. He shows that there must be four of them in the following order, since he proceeds from the fundamental determination of heavy and light, which we call attraction and centrifugal force. The corporeal, says he, is according to its motion either light or heavy; and this is not merely relatively the case, but absolutely so. The relatively light and heavy is that which with equal volume will fall slower or quicker. The absolute lightness goes up to the extreme parts of the heavens, while absolute heaviness descends below to the centre. These extremes are fire and earth. Between these are intermediate elements which stand in similar relation to each other; and these are air and water, of which the one is heavy and the other light, though relatively so. Water, namely, pervades under all except earth, and air *over* all except fire. "On this account," infers Aristotle, "there exist these four matters; but four matters in such a way that they have one in common,—particularly since they arise one from another, their being is another than they." Yet Aristotle does not characterize the ether before mentioned as the common matter. Upon this it should be remarked here, that although these fundamental determinations are far from exhaustive, yet Aristotle has gone much further in the investigation of this subject than the moderns: he did not hold at all that idea of the elements which is current in modern times; according to that idea, the elements are simple and indestructible. Such a simple determinateness of what is existent is however an abstraction and has no reality, for, as defined, it would be incapable of motion and change; but an

element must also have reality itself, and is therefore, as unity of opposites, dissoluble. Aristotle lets the elements therefore, as we have already seen, arise one from the other, and pass over into each other: this is quite opposed to our physics, which understands by elements only what is simple and indestructible and self-identical. For this reason they are wonderfully wise when they upbraid us for holding water, air, &c., for elements! Moreover, modern physicists have never been able to comprehend the expression "neutrality" as a universality comprehended as unity, just as Aristotle ascribes it to the elements; in fact, however, an acid combined with a base is throughout nothing more (as they assert) than such [a neutrality] in this connection. But Aristotle is far from thinking "simplicity" in the sense of a mere abstraction, and he is just as little given to acknowledging the truth of that barren abstraction, the idea of composition from parts. On the contrary, he contends against it energetically, e. g. in his remarks in relation to Anaxagoras (*De Cœl.* III. 4).

I will now adduce the moments of the *REAL PROCESS* in relation to motion as Aristotle treats them (*De gen. et corr.* II. 2-4) before finally passing over to the "Principles of tangible body": here we see the elements in their processes, while before we saw them in their quiescent determinateness. Aristotle excludes those relations which exist only for sight, smell, &c.; and prefers to them those that exist for the sense that perceives the heavy and light. As these fundamental determinations he adduces heat and cold, dry and moist; they constitute the difference-for-others perceptible to sensation, while heavy and light are properties pertaining to the difference-for-themselves. In order to prepare the way for the transition from the elements to their sensible relations, Aristotle says: "For the reason that there are four principles—and four things have in reality six relations to each other, but the opposites cannot here be united (dry with moist, and warm not with the cold),—therefore there are four combinations of these principles, (1) warm and dry, (2) warm and moist, (3) cold and moist, and (4) cold and dry,—and these combinations follow those primary elements; so that fire is warm and dry, air warm and moist (vapor), water cold and moist, earth cold and dry." Next, Aristotle endeavors to

make the reciprocal change of elements into each other conceivable in this manner: the beginning and ceasing go from one extreme into the opposite. All elements have an antithetic relation to each other; each is the non-being of the other, and one is distinguishable from another through the predicates of actuality and potentiality. Among these some have a part in common; e.g. fire and air have heat; if, therefore, in fire the dryness be overcome through moisture, then from *fire* arises *air*. But with those which have nothing in common with each other, as *earth*, which is cold and dry, or air, which is warm and moist, transformation goes on more slowly. The change of all elements into each other, the entire natural process, is to Aristotle therefore a circle of changes. This is unsatisfactory, for the reason that neither the individual elements are comprehended, nor do they round themselves to a whole.

In fact, Aristotle passes next over to meteorology precisely for this purpose, the consideration of the general process of nature [i. e. as a whole]. But we have here arrived at his limits. Here in the natural process this mode of simple defining as such ceases to hold good—this style of progressive determination fails to meet the wants of the subject, and loses its interest. For in the real process these defined and fixed ideas continually lose their signification, and become the very opposite of their definitions precisely where these indifferent links of the series condense and unite. In defining time and movement we saw Aristotle himself unite opposite determinations in this manner; but motion in its true character must take back into itself space and time; it must exhibit itself as the unity of these its real moments, and show how it contains them; i. e. show how this ideal comes to reality. Still more, however, is it necessary to show how the successive moments, moisture, heat, &c., are subsumed under processes. But the sensuous phenomenon begins here to gain the upper hand; for the empirical falls asunder like Nature into individualized forms. The empirical phenomenon so grows upon the observer, that he can impress upon it here and there only the sign of his taking possession thereof by thought, but it can never be thoroughly penetrated, as time, space, and motion have been, since it withdraws from the ideal further and further.

THE PHILOSOPHY OF NATURE.

(COMMENTARY ON THE FOREGOING ARTICLE.)

The exposition of Aristotle's Philosophy of Nature by Hegel, which is given in this number of the Journal in a stiff and literal translation, will perhaps excite some curiosity as to its standpoint and bearing. Its presuppositions are so different from those current in our day, that we have no expectation that either Aristotle or Hegel will make much impression in this province. In spiritual things—such matters, for instance, as were treated in the exposition of the "Metaphysics" given in our last number—it is fair to suppose that a large number saw, or might have seen, many deep thoughts to repay them for the labor of reading and studying that article. But that there should be any speculative explanation of nature, this does not seem possible to other than the few.

In order, however, that such readers as venture to try Aristotle in this number may have an article close at hand to serve as an antidote to its effects, we offer the following remarks:

I. The common opinion of those who attempt to read Hegel's Nature-Philosophy holds that he attempts to construct or deduce natural things by an *a priori* process, eschewing at the same time all induction. A moment's thought is sufficient to suggest this objection to such a procedure on the part of Hegel: suppose that he does deduce certain thought-determinations from abstract, *a priori* grounds, how can he identify these thought-determinations with natural determinations, so as to know and name what he has deduced? How, for example, when he has deduced the determinations *space*, *time*, or *motion*, does he know that these are properly called *space*, *time*, and *motion*, or that what he thinks under those names is what mankind have thus named? Can he do this without carefully collecting the empirical characteristics of these determinations from the ordinary consciousness, and then identifying them with his *a priori* ones by careful comparison? Of course he cannot: every one sees this at a glance. Supposing, then, that he *can* deduce determinations, there

are two other steps to the process of making a nature-philosophy, making three in all:

1. Deduction of the ideal determination.
2. Induction of the empirical characteristics of natural objects.
3. Identification of the natural object with the ideal determination.*

Such a process cannot properly be called deduction, for it involves likewise the process of induction, and Hegel must be unconscious of the presuppositions he makes if he professes to follow deduction and eschew induction. Does he profess anything of the kind? The reader of the third volume of his *Logic* does not need be told that Hegel merits almost exclusively among moderns the honor of having pointed out the exact force and relation of these processes, and their union in the total process. (*Werke*, B. V. s. 115-162.) In fact, a proper statement of Hegel's endeavors would be more nearly this: he attempts to comprehend the world of actuality, and to explain all things through it. He has first investigated the validity of all thoughts and ideas (i. e. pure thoughts) in his *Logic*. Then he comes to nature with the insight into the FIRST PRINCIPLE that leads him to look for certain realizations of those pure ideal forms. His great labor, however, lies in critically collecting and sifting the phenomena of nature, for he must correctly classify these phenomena according to the scale of concreteness and abstractness. He has no difficulty in seeing the extremes of contrast: there is the mechanical and the organic in opposition—clearly the organic is more concrete and has more of its phases real at once than the mechanical, which is *real* in only a few of its phases, and merely *potential* in most of them. There comes to view a middle province, that of Physics proper, wherein the abstractness of the mechanical is partly modified by the entrance of a unity, so that the contrasts stand in connection through a middle term; chemistry is the highest type of this middle province. The relation of acid and base realized in a salt is far more concrete than that of Space and Time in Motion; i. e. it includes the latter and many other determinations, while

* The reader will find an able exposition of this subject in Everett's *Science of Thought* (p. 169 *et seq.*), published in Boston by W. V. Spencer.

the latter does not include the former. The chemical relation is a better symbol of the organic than is the mechanical. In the mechanical, the unity is entirely outside or external (e.g. the gravity of a body to another outside of it), and is manifested in it only in external movement. In the physical there is more individuality manifested; the unity is partly internal, inasmuch as the elements in their antithesis exhibit it (the unity) as their essential quality. In the organic the unity becomes completely real; it controls as final cause the determinations which arise.

II. Whatever phenomena appear in nature have to be classified according to their general characteristics. The perception of these general characteristics is a process of identification and not of discovery. Induction is not, as a whole process, the operation it is generally supposed to be by those who talk of it most. It is not a pure passivity of the mind directed to finding simply what is given it from without. The inductive philosopher is engaged in the same threefold process that the speculative philosopher employs in his "nature-philosophy." There is no help for it. He may be unconscious, and perceive only one phase of his process. The ostrich attempts to hide from the hunter by thrusting his head into the sand. The inductive philosopher would escape from the *a priori* phase in his process by ignoring it and looking the other way. But when any very general result is reached, the activity of thought, which identifies the object with its own synthesis, becomes apparent enough. Indeed, to one who reflects on the nature of the syllogism, it is clear that any form of it involves, implicitly or explicitly, the same process, to wit: (1) the seizing and fixing of the empirical object, which involves (2) a classification or a free handling of the object by thought, the analysis and synthesis of ideas, which again involves (3) a process of pure or free thought wherein the genesis of ideas as categories takes place—unconsciously in most cases. Unless the inductive philosopher recognized the general principle, he would have no claim to be called a discoverer. But the activity of the mind is the same whether he defines the principle by limiting the generic term in pure thought, or limiting the same in the presence of the object. The identification must be the same; but the consciousness

of the process may be quite wanting in the one case, and hence the freedom involved in it not realized. The formation of an idea is always a free thought-process: the *maya* of the sense-activity makes us think that we are passive receivers of ideas when we are not such. To the *reality* of freedom must be added its *appearance* also. This is essential to the complete "liberation of the soul," as Kapila calls it.

III. Elsewhere another statement of this point has been made:*

"Deduction is no more speculative than Induction is. Both are defective, and have this peculiarity in common with all partial procedures: they each involve an unconscious procedure entirely the reverse of the conscious one which is named. How, for example, could one ever deduce anything without recognizing in the product something before familiar to him in some inductive shape or other? Let him follow out the strictest dialectical procedure, and commencing with the ultimate abstraction — Being (if he will); in this, what meaning soever he finds, implies other concepts; and since in the definition of his object he is carried beyond it, he calls this *deduction*; but the 'other concepts' involved in the first had to be identified and named: they had to be defined before he could call his procedure a progress at all. No deduction was possible, therefore, until he identified those concepts that arose to view with familiar names of concepts hitherto known to him empirically. The pure thinker, who saw the dialectical procedure without being able to recognize its results, would never be in a condition to describe it in words. Indeed, the mystics are those who see this movement of pure thought, but are so unacquainted with the scientific vocabulary of their language as not to identify the procedure under the conventional description; they therefore use concrete, sensuous expressions having analogies to the content they attempt to utter. In mystic philosophy, for this very reason, dependence upon the inductive factor is most apparent.

"Not less, however, is Deduction an unconscious factor in all Induction. The inductive process could never take the first step above the concrete material before it, except by the free process known in pure thought. Classification—indis-

* Jour. Spec. Phil., Vol. III., P. VI.

pensible to Induction—not only precedes generalization, but is the result of generalization. The act of induction seized as a whole is as creative as that of deduction. The inductive philosopher who knows nothing of the pure thought-movement by itself, is at all times half unconscious of his entire activity. With this unconsciousness comes the danger of mistaking one-sided abstractions for concrete laws. The speculative cognition contains both phases—the deductive and inductive; but not as distinct processes. The syllogism in which the Particular, the Individual, and the Universal, are—not successively, but simultaneously—the middle term, is no longer a mere syllogism, but is the form of ‘knowing by wholes’ of which Plato speaks.”

Thus it is clear that the empirical element or phase enters even into Ontology, and that what consciousness has unconsciously produced (absurd as this may sound) through its own development is consciously developed and recognized in the science of Pure Thought.

IV. The reader may be interested to compare Hegel’s arrangement of the details of Nature-Philosophy with that of Aristotle. In Hegel’s *Philosophy of Nature* (Vol. II. of the *Encyclopædia*, 2d ed.) the subjects discussed are given in the following order:

I.—MECHANICS.

CHAPTER I.: MATHEMATICAL MECHANICS.

- A. Space.
- B. Time.
- C. Unity of Time and Space: motion and matter.

CHAPTER II.: FINITE MECHANICS; GRAVITY.

- A. Inertia.
- B. External Impulse (*Stoss*).
- C. Gravity.

CHAPTER III.: ASTRONOMY.

- A. Universal Gravitation.
- B. The Kepplerian Laws.
- C. The Totality of the Solar System.

II.—PHYSICS.

CHAPTER I.: PHYSICS OF GENERAL INDIVIDUALITY.

- A. The Free Physical Bodies (Sun, Planets, Moon, and Comets).

- B. The Elements (Air, Fire, Water, and Earth).
- C. Meteorology.

CHAPTER II.: PHYSICS OF PARTICULAR INDIVIDUALITY.

- A. Specific Gravity.
- B. Cohesion (Adhesion, Coherence, Elasticity).
- C. Sound.
- D. Heat.

CHAPTER III.: PHYSICS OF TOTAL INDIVIDUALITY.

- A. Shape (Magnetism, &c.)
- B. Particular Properties of Bodies.
 - 1. Relation to Light—Transparency, Refraction, Science of Colors.
 - 2. Properties of the Antithesis—Smell and Taste.
 - 3. Electricity.
- C. Chemical Process (Galvanism, Salt-formation, Elective Affinity).

III.—ORGANICS.

CHAPTER I.: THE EARTH-ORGANISM.

- A. History of the Earth.
- B. Geology and Oryktognosy.
- C. The Life of the Earth (Atmosphere, Sea, Land).

CHAPTER II.: THE PLANT.

- A. Shaping-process (leaf and root, cell-structure, movement of the sap, &c.)
- B. Process of Assimilation (with light, air, and water).
- C. Sexual Process.

CHAPTER III.: THE ANIMAL.

- A. Formation.
 - 1. Function of Organism.
 - 2. Systems of Formation (a. Nerve-system, including also the Osseous; b. Blood-system, including the Muscular, the Lungs and Liver, the Heart; c. The Digestive-system).
- B. Assimilation.
 - 1. Theoretical Process.
 - 2. Practical Process (a. with light; b. breathing, perspiration, thirst; c. digestion).
 - 3. Instinct.
- C. Sexual Process.
 - 1. Sexual relation.
 - 2. Zoölogy (a. Worms and Mollusks; b. Insects; c. Vertebrates—fishes, amphibia, birds, mammals).
 - 3. Medicine (a. Nosology; b. Therapy; c. Death of the individual).

Under the last topic (Death of the individual) is given briefly Hegel's doctrine of the nature of physical death, and the compass of its effects. Its connection with the diremption of sex excludes it from the life of the mind, and hence conscious being is immortal. The neglect of careful study of this last chapter of the Philosophy of Nature, and the transition contained therein to the Philosophy of Mind, has led to much misapprehension of Hegel's doctrine on this point. It is not Hegel's fault, however. (On the top of page 107, Vol. IV., Jour. Spec. Phil., we state briefly this doctrine of Hegel as we have seen it by the aid of Hegel's remarks in the chapter before mentioned.)

V. The crusade against technical words continues still. People are frequently saying: "If you would only give your thoughts in common language, it would be so much easier to understand you." With all seriousness, these people are radically mistaken. If speculative thoughts were crowded into "common language," they would of course appear like common thoughts, if the expression means anything. For what is wanted is, easily comprehended thoughts. Now, suppose a deep and true thought were so expressed, in common language, as to seem a trite remark or a truism: common-place thinkers would slide over it smoothly, and see no deep thought at all; while a few deep thinkers, on the alert, might catch the subtle under-meaning. If, on the contrary, the thought preserves a technical expression, the easy, common-place thinker receives a severe shock when he comes upon it, and is not left in a state of doubt whether he understands it or not. He sees at once that he does not "make sense" of it. If he is simple and sincere, and withal possessed of humility, he will summon his powers, and, by hard thinking, master the passage. He will be rewarded by the consciousness of added power which increased insight gives. But if he is conceited and vain, it is likely that he will accuse the author of obscurity and confusion of thoughts.

These remarks find their illustration in translations of Aristotle. In some cases the translators have worked with the assurance that what they could not readily understand, with their limited culture of thought, was due to some clumsiness of Aristotle in expressing himself, or else to the fact

that "here, the text is very corrupt." They have accordingly taken the liberty to translate freely, into "good, easy English," whatever they have undertaken. The consequence is that the reader finds in their translations nothing deep, nothing new; and he goes on from page to page, wondering why Aristotle has been called the profoundest of philosophers—"the father of those that know"—and is tempted to think that what was great for the heathen Greeks, and the semi-civilized people of the dark ages, is very trite and trivial for men in this "enlightened age." The effect of such self-gratulation is indeed pitiable. Growth can be expected only from the conjunction in the mind of profound humiliation and most intense aspiration. The scholar should gird himself for work anew after each successfully completed labor, just as if he had to climb the new ascent from the base; he must begin as if he knew nothing, and had all to learn. In this way he moves on solidly, and is not hampered by pre-suppositions.

This frame of mind is above all necessary in the study of Nature. The trouble lies mainly in the fact that people too readily swallow certain labelled results, without independent examination of their grounds. These labels are in very frequent use. "The cause of this is electricity," says the professor. Everybody understands what is meant by the predicate, "electricity," does he? It is worse with such predicates as *gravity*, *cohesion*, *affinity*, *light*, *heat*, *motion*, etc. These labels are wrapped around certain syntheses of natural phases, and the whole is then used as if it were a simple, well-known object. The consequence is that self-deception prevails generally among those who write or talk on these themes. If these labels or technical terms are used with anything like an adequate sense of their meaning—i. e. of the phases and relations synthetically united under these technical terms—common-place readers get shocked in the way we have described.

Accuracy is indispensable; the precision must be infinite; definitions must therefore be exhaustive. The strength of mind is tried by this closeness of defining. To adapt a scientific work to popular (i. e. common-place or weak and undeveloped) minds, it is, therefore, requisite to leave out

definitions, or at least to relax their severity. This process at once takes away the very thing which forms the end and aim of the study proposed. What we wish to do is to bring up the mind to that strength of grasp that enables it to deal with the wide syntheses in a competent manner; not to drag down and mince up the object to fit it for the narrow and undeveloped intellect.

VI. Of the discussions in the article of Hegel on Aristotle's Philosophy of Nature, the most important is that of the ideas of Necessity and Adaptation—or *causæ efficientes* as opposed to *causæ finales*. This distinction is a vital one; and the thinker who cannot transcend the category of efficient cause, and find it to be conditioned on a deeper principle—that of “sufficient reason,” or final cause—has by no means arrived at speculative thinking. Through this insight one arrives at the doctrine of the *causa sui* (self-mover) and of freedom; all on the hither side is necessity and fatalism.

The discussions of time, space and motion, as ideal and as real processes, together with the limitation of bodies and places, as explained through them, are of the highest philosophical interest; and one will find in Hegel's *Natur-Philosophie* a fuller exposition of the same determinations.

The categories of Potentiality and Actuality, as used by Aristotle, have deep significance; this is more apparent in the Philosophy of Nature, where so much is only potential.

The doctrine of the four elements—earth, air, fire and water—seems grotesque enough, especially in the light of our modern chemical discoveries regarding the sixty simple elements. But with the advance of our studies in meteorology, it is not certain that the doctrine of the four elements may not come again into favor at no distant day. At least a hint of a deeper meaning in that old doctrine could be found in considering the four elements to be the solid, the liquid, the gaseous fluid, the ether, instead of definite natural elements.

The advance of studies in biology will gradually bring our physicists back to *final causes*, and then the Philosophy of Nature and that of Mind will harmonize.

PHILOSOPHY IN EUROPE.

Berkeley.

In a former number we spoke of Philosophy in Italy, and of the newly-established philosophical journal there. Recent letters from Dr. Collyns Simon assure us there is a prospect of the early establishment of another philosophical journal, edited by Professors Spaventa and Fiorentini. Meanwhile the first named journal continues to appear, and to increase in interest. In the last two numbers Dr. Collyns Simon has a lengthy discussion of the subject of the freedom of the will: "Upon the Impossibility of the Human Will and upon other Materialistic Hypotheses, a letter by T. Collyns Simon, LL.D., to Dr. Herzen, author of 'The Physiological Analysis of the Free Will in Man.'" The persistent activity which makes the tour of Europe and by personal interviews with the philosophers—by numerous and lengthy letters—and finally by long disputations, written at one time in English, at another in German, and again in Italian, seeks to spread the knowledge and influence of the Berkeleyan doctrines, is a spectacle to arouse exertions among the most sluggish ones. Dr. Simon has the soul of a crusader. The recent edition of Berkeley's complete works under the editorship of Professor Fraser, will no doubt lead to renewed study of that great man. We have before us a published letter of Dr. J. H. Stirling, wherein he defines his position toward Berkeley, saying among other things: "To my mind Berkeleyanism is to philosophy what Sangradoism is to medicine. As bleeding and warm water constitutes the whole art of the one, so 'without is within, for without is sensation, and sensation is within,' constitutes the whole theory of Berkeley." "Again, it is very wrong to call this idealism: Berkeleyanism is a *sensational* philosophy, and in a certain sense the most sensational of all philosophies"—"it is, in fact, the complete *negation* of philosophy." "Philosophy is the reduction of the whole of man's world to terms of thought, with theoretical light and practical guidance in all that concerns him as a rational animal."

The translation of Berkeley's *Principles of Human Knowledge* into German, by Professor Dr. Friedrich Ueberweg of

Königsberg—a translation published in that excellent and widely circulating series, Kirchmann's "Philosophische Bibliothek," has proved the occasion of numerous articles offensive and defensive. Dr. Simon has participated in the discussion. In the fifty-sixth volume of the Journal for Philosophy and Philosophical Criticism, published at Halle (in 1869) a letter appeared with the title which we translate: "ON IMMATERIALISM: a letter to Mr. Collyns Simon; by Prof. Dr. Freiherrn v. Reichlin-Meldegg in Heidelberg." In 1869, Prof. Dr. Ueberweg had already taken grounds against Berkeley's views, and in particular against Dr. Simon's exposition of them, in an article in Vol. 55, Jour. for Phil. and Phil. Crit., headed: "Is Berkeley's Doctrine Scientifically Irrefutable?" Dr. Reichlin-Meldegg's letter criticises the doctrine upheld by Berkeley, from much the same point of view as Dr. Ueberweg. In Vol. 57 of the same journal, Dr. Simon appears with a double letter, in the first part addressed in reply to Dr. Ueberweg, and the second to Dr. Reichlin-Meldegg. Remarks are appended to this letter by Prof. Dr. Ulrici, who gives his view of the reasons why Berkeley's theory has found so little sympathy among philosophers and thinkers at large. He thinks it is owing to the fact that it has no claims over the ordinary mode of view. "It treats of the origin of our ideas from so-called 'things.' What the common consciousness calls real, material things, and regards as the mediating causes or agents of our perceptions and ideas, Berkeley calls divine ideas, or representations, through which God communicates thoughts to us; by means of which, therefore, our ideas of things originate." "The common mode of view may not be able to explain *how* ideas arise through the action of matter on matter," etc.; "but Berkeley is not able any more to show how the divine objective ideas become to us subjective perceptions," etc. In the first number of the same journal for the current year, the strictures of Dr. Ulrici are answered by Prof. Dr. Hoppe, in an article entitled: "What Claims Berkeley's View has over the Ordinary View." In Volume IV. of Bergmann's *Philosophische Monatshefte*, he had already anticipated this point, in a criticism on Dr. Ueberweg's position. Dr. Ulrici, in his rejoinder, quotes from the "Principles of Human Knowledge" a passage which he asserts to be quite

in accord with his own statements: "It is evident, to any one who takes a survey of the objects of human knowledge, that they are either ideas actually imprinted on the senses, or else such as are perceived by attending to the passions and operations of the mind, or, lastly, ideas formed by help of memory and imagination, either compounding, dividing or barely representing those originally perceived in the aforesaid ways." The "ideas actually imprinted on the senses," says Dr. Ulrici, "are the ideas of *things*, and to be distinguished from those other species of ideas spoken of by Berkeley in this passage."

Philosophical Periodicals in Germany.

In speaking of Dr. Simon's agitation of the Berkeleian question we have alluded to the two Philosophical journals published in Germany; a further mention of them may be acceptable to our readers.

I.

The Journal for Philosophy and Philosophical Criticism, edited by Dr. J. H. v. Fichte (Professor of Philosophy at Stuttgart, and son of J. G. Fichte, the author of the Science of Knowledge, &c.), Dr. Hermann Ulrici (Professor of Philosophy in the University of Halle), Dr. J. H. Wirth (Evangelical Preacher at Winnenden), together with an association of learned men, is published at Halle, and is at present (1871) in its fifty-eighth volume. Each volume appears in two numbers, and occasionally there are two volumes a year. To give some idea of the publication, we translate the table of contents of the volumes before us:

Volume 54. — Art. I. The Opposition between Philosophy and History—*G. Mehring*. II. Studies in Morphology—*Dr. Adolph Zeising*. III. Relation of the Platonic Idea of God to the Idea of the Good—*Dr. Karl Stumpf*. IV. New Facts Relating to the Life and Doctrines of Giordano Bruno—*Moritz Carrière*. V. Philosophy in Italy since 1815—*F. Bonatelli*. VI. Book Notices.

Volume 55.—Art. 1. On the Logical Question—*H. Ulrici*. II. Is Berkeley's Doctrine scientifically Irrefutable?—*Dr. F. Ueberweg*. III. Book Notices.

Volume 56.—Art. I. On the Logical Question—*H. Ulrici*. II. Soul, Spirit, and Consciousness, from the stand-point of Psychophysics—*J. H. v. Fichte*. III. Historical Development and Significance of Kant's Critique of Rational Psychology—*Dr. Rudolph Hippenmeyer*. IV. Leibnitz and Lessing, a Study; by Dr. R. Zimmermann—*Dr. Arthur Richter*. V. Elements of Philosophical Ethics; by Dr. Schmid—*J. U. Wirth*. VI. Religion, its Nature and History; by Otto Pfeiderer—*J. U. Wirth*. VII. Reply to the Criticism of my Philosophy of Unconsciousness, by Prof. Reichlin-Meldegg—*E. v. Hartmann*. VIII. Answer to the foregoing—*Dr. Reichlin-Meldegg*. IX. On the Logical Question (with reference to the Writings of Trendelenburg, George, Kuno Fischer, and Ueberweg)—*H. Ulrici*. X. Immaterialism: a Letter to Mr. Collyns Simon—*Dr. Reichlin-Meldegg*. XI. Book Notices.

Volume 57.—Art. I. On the Basis of a Concrete Theism—*J. H. v. Fichte*. II. On the Opposition between "*Methodikern und Genetikern*," and its Mediation by the Aid of the Problem of the Order of Plato's Writings—*F. Ueberweg*. III. Reply to the foregoing—*H. Ulrici*. IV. The Doctrine of Berkeley—*Collyns Simon*. V. Reply to the foregoing—*H. Ulrici*. VI. System of Logic, together with an Introduction to Philosophy for the Use of Academies and for Self-instruction; by Dr. K. A. F. v. Reichlin-Meldegg—*Dr. Ueberweg*. VII. The Journal of Speculative Philosophy, edited by Wm. T. Harris, Vols. III. and IV.—*H. Ulrici*. VIII. Schleiermacher's Philosophical Theology—*Dr. W. Bender*. IX. Spinoziana—*Dr. Ed. Bötker*. X. W. Dilthey: Life of Schleiermacher—*Dr. E. Sigwart*. XI. The Natural Law of the Soul; by E. F. Wyneken. XII. Elements of Æsthetics, Morals, and Education; by F. A. v. Hartsen. XIII. Psychological Experiments; by F. A. v. Hartsen—*C. Niesen*. XIV. The Ambiguity of the Copula in Stuart Mill's Writings; by M. Jordan. XV. On Berkeley's Idealism; by F. Frederichs. XVI. On the Logical Question; by G. Biederman—*H. Ulrici*. XVII. Pangenesis: a New Hypothesis of Charles Darwin—*F. A. Hartsen*.

Volume 58.—Art. I. On Schleiermacher's Philosophical Theology—*Dr. W. Bender*. II. On the Nature of the Spirit of Humanity: a Critical Consideration of the Fundamental

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II.

"The Thought" (*Der Gedanke*), "a journal of scientific investigation and criticism, organ of the Philosophical Society at Berlin, edited by Dr. C. L. Michelet and Dr. J. Bergmann, Secretaries of the Society," was published in Berlin from 1860 to 1867, the seventh and last volume of the same appearing in the latter year. Professor Michelet retired, and Dr. Bergmann edited a new journal called the "Philosophische Monatshefte," which has now completed four volumes. The contents of the last volume of "Der Gedanke" are as follows: Art. I. Where do we now Stand in Philosophy?—*C. L. Michelet*. II. Review of three Treatises on the Relation of Metaphysics to Natural Sciences—*A. J. Bergmann*. III. Anti-Critique on "Nature-Study and Culture"—*Schultz-Schultzenstein*. IV. Necrology (Henning, Pfluel, Cousin)—*C. L. Michelet*. V. The Professors of Philosophy in the University of Berlin. VI. Historical-philosophical Survey—*C. L. Michelet*. VII. Proceedings of the Philosophical Society. VIII. The Real and the Ideal—*J. Bergmann*. IX. The Scientific Establishment of the Musical Intervals, by Hartmann and Helmholtz—*G. Engel*. X. Zirngiebl: Jacobi's Life, Poems, and Thoughts—*C. L. Michelet*. XI. Kirchmann's Popular Philosophical Lectures. XII. Christianity and Modern Culture—*Robert Schellwien*. XIII.

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KANT'S ETHICS.

By JAMES EDMUNDS.

IV.—*The Ethical Principle.*

§ 54. We are conscious of a practical law apriori, says KANT (Krit. der praktischen Vernunft), "as we are conscious of theoretic ones: by attending to the necessity with which reason obtrudes them on the mind. And by separating from them all aposteriori conditions, we arrive from the first at the idea of a pure will, as from the last at the notion of a pure understanding."

Finding herself unable to escape from her unconditional practical law (morality), reason proceeds to abstract, in order to determine its intelligible form. This can be no other than formal; because the content (material objects, phenomenal ends of finite action) can be known only aposteriori and must be abstracted from. And it can be no other than freedom: because if dependent on nature it could connect only phenomena; and the will so (by nature) connected must (by the law of the causal nexus) be itself a phenomenon and known only aposteriori, and must be again abstracted from.

§ 55. If reason is supreme, she must possess a faculty enforcing her command, id est, a freedom. Else she were not practical, but merely ideal, a figment of the brain, her supremacy a foolish fancy, her rule an imposture and impotent. (§ 23.)

Absolutely apriori, it may be assumed that there may be a freedom (§ 52); but of this idea nothing can be known and

by it nothing determined. But the fact freedom (abstracted from experience and recognized by consciousness as an apriori fact of reason) is apodictic, and imports the exact function (of will) postulated, and so establishes the supremacy of reason practical. (§ 21.)

Further: abstracting from the fact freedom (a free act in general, which may be figured as a sort of sensible schema), we arrive at the idea freedom, which is apriori and secure, consciousness assuring the datum (fact). (§ 34.)

§ 56. If reason has a faculty of freedom, that faculty must be exercised in pursuance of a law (§ 30), which law reason must declare to every rational agent. That is, every rational agent must have a rule of right and wrong. (§ 20.)

Reason in genere is one and the same reason. Therefore there must be one and the same apriori rule of right and wrong for every rational agent. In other words, the law of freedom is law universal. Theoretically this is an analytical proposition deduced from the idea freedom; but no such theoretical deduction is sufficient to establish the objective validity of the law.

§ 57. But reason commands something (which she declares right) to be done, tolerating no denial of her practical power: hence her rule of right and wrong, adding to the idea freedom existence, is an apriori synthetic proposition apodictic and immediately evident, an original deliverance of reason, "the single isolated fact of practical reason announcing herself as originally legislative"; and as such requires no deduction whatever. (§ 14.)

§ 58. The conclusions herein reached may therefore be stated briefly:

We do not attempt to deduce the supremacy of reason: this she herself exhibits and demonstrates.

We do not require a deduction of the obligation constituted by reason: this she herself commands and enforces. (§ 22.)

The law of reason is therefore a practical principle (rule of action); and with the possibility of the practical principle we set out. (§§ 48 to 51.) We may properly however inquire into the ground of the possibility of the synthesis (§ 57): an exploration not necessary to the validity of the law indeed,

but acceptable to science, which always seeks perfect unity. (§ 16.)

§ 59. The idea morality and the content of experience (matter of sense) are completely heterogeneous, and the former can never be in the latter discovered *aposteriori*. But if no objects can be given in harmony with the idea, morality can only exist as a logical form; which (since it can by hypothesis receive no content) would be mere thought, and could not enter into cognition, and therefore could not belong to understanding (which is the faculty of cognition: § 44). It would be puerile to attach practical value to an idea under which no phenomena could be subsumed.

What then is it which on the one hand, being a pure transcendental determination of sense, of universal objective validity, resting upon a rule *apriori* (the objective validity in sensuous intuition of the original unity of apperception), is homogeneous with the pure intellectual idea; and on the other no less homogeneous with the experimental determinations of the *mundus sensibilis*, by virtue of its sensible form? This nexus (transcendental schema) must exist in order to constitute the possibility of that synthesis which is involved in every subsumption of a particular duty under the moral law.

"The schema of sensuous conceptions," KANT says, in his transcendental doctrine of the faculty of judgment, "is a product and as it were a monogram of the pure imagination *apriori*, whereby and according to which images first become possible, which [*say particular duties*] however can be connected with the conception [*say the law*] only mediately by means of the schema which they indicate, and are in themselves never fully adequate to it [*fulfilment of the law is not possible*: (§ 5)]. On the other hand the schema is something which cannot be reduced into any image; it is nothing else than the pure synthesis expressed by the category [*required by the idea*] conformably to a rule of unity according to conceptions. It is a transcendental product of the imagination, a product which concerns the determination of the internal sense according to conditions of its form (time) in respect to all representations, in so far as these representations must be conjoined *apriori* in one conception conformably to the unity of apperception."

§ 60. And again: "The schema is properly only the phenomenon, or the sensuous conception of an object in harmony with the category."

The phenomenon of the idea morality (schema of reason practical) is the rational agent in genere; not abstract *from* the sensible world, but abstract *in* it; indeterminate, though not indeterminable; cleared of all deflection from his own pure law, though nevertheless not delivered from the solicitations of the sensory. In other words, THE ETHICAL SCHEMA (analogue of the transcendental schema of the understanding) IS PURE MAN. He who would mark the perfect man and behold the upright, must enter into the kingdom of pure reason: it were vain to search any purgatory, whether comprised in the conception of earth, hell, or heaven.

This ethical schema for the realization of the ethical law, must be distinguished from that (homo noumenon) for the ideal determination of substance in the intelligible world (§§ 36, 38). The former, not being abstract from time, is therein possessed of relations both external and internal, and is very sensible; while its correlate the latter is purely egotistic.

§ 61. We have said (§ 20) that in our relations with the phenomenal world we become conscious of an apodictic fact of reason, morality. Whereupon reason abstracts from experience, bares the apriori root, and declares that "every finite intelligent agent has a rule of right and wrong" (dictum of reason: § 56). This is the simplest form in which the rational dictum can be stated; and that every reason does unhesitatingly so formulate it, may be known by the simple observation that even the most ignorant and unreflective will enforce it by pronouncing his (any) individual instance "right because it *is* right" or "wrong because it *is* wrong," disregarding (or at most appending) any material or ratiocinative support.

Pure reason, in order to make any deduction from this her rule (in other words, in order to found upon it any particular duties), seeks a stricter form; for manifestly in the simple form above given is merely contained an identical proposition: "he who is ruled by reason has the rule of reason." We inquire what is the rule?

§ 62. Since reason is in genere but one and the same rea-

son, her rule apriori can be but one and the same rule (§ 43). If the rule of a particular reason cannot be the rule of all reason, it is no rule. Therefore actions, in order to conform to the rule of reason, must be in pursuance of a subjective maxim (rule of a particular rational agent) which can be constituted universal law (rule of all rational agents). "So act that thy maxims of will might become law in a system of universal moral legislation." (§ 57.)

§ 63. We have now a form of the rule. But if in the common affairs of life we must make separate inquiry whether each particular act is conformed to so general a rule (a requirement that in practice would speedily become tyrannous and repulsive), it is evident that our moral science is a cathartic of action rather than a tonic. A system of so narrow extent, positive in form but negative in result, would defeat the object of its construction, which is to simplify the process of subsumption and thereby to aid the common judgment in the application of the law.

Since no matter can be known apriori, we seem to be at a loss for any theoretical deductions. Now in the use of reason as an instrument of cognition, we find in the pure sensory schemata through which the notions of the understanding, which would be otherwise wholly impractical, become applicable to the phenomenal world and enter into apriori (though not supersensible) syntheses, thereby constituting the apriori science of pure mathematics. Observing that the use of the same rational faculty as an ethical rule is analogous (the idea being realized only by means of a pure sensible schema: § 59), we infer that similarly (to the mathematical) our ethical science may be extended apriori into the sensible world by virtue of the ethical schema. We accordingly proceed to adopt into the law (as matter for the intelligible form) the pure sensible form, stating the rational agent in genere as the end of the law.

Moreover, the law is of universal validity (§ 62): therefore the rational agent can be required to adopt into his maxim only such matter or end "as may be made imperative on all mankind to design." This end can be no less necessary than the schema which alone renders possible the realization of the law, and no less universal than the agent who adopts it:

in a word, it can be nothing else than mankind in genere (HUMANITY), abstracted from all subjective peculiarity and idiosyncrasy.

The result of our bold analogy is no less surprising than gratifying. For we soon find that we have solved all our practical perplexities, and have easily evolved a broad system of pure deductions as readily applied to human acts as are the rules of mathematics to natural facts: the greater certainty of natural science being rather apparent than real, and due to the different elements of the respective problems.

§ 64. The law of reason, commanding an act, must command also an end: in other words, "THAT which is right" (§ 33), must be stated. Duty is to ACT according to law. But if no matter of duty (end of the maxim) is determinable, how shall we know what it is right to do? For our every act may be within the limits of the law: yet the end which we design may constitute (if effected) a violation of the law. The subjective principle which formulates a design and so shapes the minor rules of action as to approach a given end, is a MAXIM, and must be fit for universal law (§ 62). Now it is clear that if every agent should so act as to produce (though mediately and by the intervention of lawful acts) unlawful results, the aim of the law would be defeated; and that maxim which admits an unlawful end is therefore itself unlawful, not being fit for law universal.

The law therefore must contain (in form) the end; and that end which is contained in law universal is universally commanded: "Adopt into thy maxims such ends as may be made imperative on all men to design."

§ 65. For purposes of subjective guidance, we have now (§§ 62, 64) completely declared the moral law. He who adopts this law of reason as his supreme spring of action and sole motive, does thereby manifestly constitute himself a universal legislator: and so long as he conforms punctually to universal law, he cannot infringe upon (diminish the quantum of) universal freedom. From obedience to his supreme law, he ought not to permit himself to be swerved by any external force whatever. External force put forth (by one subject to the law) against the law is a violation of the law, and an indubitable attack upon universal freedom. Resistance to such

pressure is exactly so far a duty as obedience to the law itself (*id est*, supreme duty); and no man can esteem himself worthy of life if he for an instant hesitates, in pursuance of resistance, to risk and if necessary to sacrifice even life itself. If in effecting resistance (establishing his own freedom in accord with freedom universal) he is himself compelled to attack, to limit, or even to utterly destroy that individual freedom which engages itself in conflict with his personal freedom (and so with freedom universal), he has neither destroyed nor limited nor even attacked that universal freedom which follows upon the universal observance of the law. Nay, more: since there is in genere but one reason, but one law of reason, and necessarily but one freedom, that freedom which assails freedom universal is clearly no freedom; and its destruction is no destruction of freedom and therefore no violation of law: in other words, "the quantum of personal freedom is preserved undiminished throughout the system, in the intercourse and exchange of man with man."—"An obstacle opposed to that which hinders an effect," admirably says KANT, "advances that effect. But everything unjust is a hindrance to freedom according to law universal. Therefore if a certain use of freedom is a hindrance to freedom universal (*id est*, unjust and wrong), then co-action (itself a hindrance to freedom), preventing such misuse of freedom, goes to establish freedom according to a universal law (*id est*, is just and right); and consequently law has in itself a right to co-act him who attempts to violate it."

The law, formulated in accordance with this doctrine, becomes: "Permit others to use thy humanity only as an absolute end."

§ 66. He who adopts the law as his supreme motive, cannot attempt to use the humanity of another as the means toward the attainment of an unjust end; for he cannot himself (by his maxim) design any end in violation of law. (§ 64.)

Hence he who attempts to misuse the humanity of another, does not adopt the law as his ruling spring of action, and must be forcibly restrained from such misuse. But no force is able to compel a rational agent to adopt a MOTIVE. To DESIGN anything is so eminently a free act, that no external compulsion can thrust it upon a free agent. Restraint there-

fore, however just, can extend no further than to the immediate act, and cannot reach the design (end of the maxim). It follows that the co-action of the law cannot enforce the law in its full extent, but only can require that acts shall be not contrary to the law.

So that we divide the law into two parts, governing acts and motives. All actions in accordance with the law are just and lawful: all motives in accordance with the law are right and moral. (§ 2).

§ 67. It is further immediately evident that the law in its relation to motives is the whole law; but the law in relation to actions is a mere fragment of the law. The latter is LAW (JUS) in the narrower sense; and it includes so much of the law as may be externally promulgated and co-acted (externally enforced). An act in accordance with it is termed legal, abstraction being made from all motive or design.

In accordance with this fundamental division of the law, we separate ethical duty into duties moral and legal. Under the former we class the obligation to obey the law in its whole extent: under the latter, the obligation to acts in accordance with law external. Hence all legal duties are moral duties; but only those moral duties are legal whose performance may be externally enforced.

Although every judicial duty ought to be a virtuous office (moral duty), it is convenient to except from the latter class those duties which fall under law external. Those duties which are not legal, but moral only, are therefore the only ones which are treated of as offices of virtue. But it must never be forgotten that this is a division and distinction for mere convenience; and it must not be supposed that the neglect of any legal duty is compatible with morality.

§ 68. The principle of morality is the whole law, and has been formulated already (§ 64.) It remains to give form to so much of the law as shall cover mere legality, and to which all actions may be externally (and, if necessary, by force) conformed. It is needful only to consider that if individual freedom is exerted in violation of the law (external), it is subject to co-action and repression: not otherwise. "Law is therefore the aggregate of those conditions according to which personal choices may harmonize (and not destroy one

another) by being subordinated to freedom's law universal." The supreme principle of law (external) is: "Every action is right and just, whose maxim allows the agent's freedom of choice to harmonize with the freedom of every other, according to a universal law." And since the law commands action (else it were no law), it is duty to "**so act that the use of thy freedom may not circumscribe the freedom of any.**" This is the fundamental principle of every just statute.

§ 69. This rule appears to be negative, requiring of us nothing positive or particular, but only that we refrain from interference with the rights of others. But we discover practically that the spheres of the freedom of intelligent agents intermingle, and that we cannot act at all without in some way limiting the freedom of some other. And this we may also postulate apriori, reflecting that phenomenal intelligent agents exist in a WORLD, which the freedom of one may completely fill; and hence there is a mutual limitation, which may be known but not determined apriori.

§ 70. The strict law ought to restrain our freedom no more than equally with that of every other; but as to its particular application, the law cannot be completely stated. In general terms, it may be affirmed that unjust statutes originate in the extension of the law of a particular case, without prior generalization of the law by abstraction from its particular application.

Now if we make the law our motive, in any particular indeterminate case we shall rather yield more than is just than less; and the greater our desire to adhere strictly to the law, the more we shall yield, lest unwittingly we do not yield enough. This is legally beneficence and in the eyes of men meritorious (§ 10); but ethically it is no more than duty (being the avoidance of a possible transgression), and indicates MORAL WORTH. In stating others as the (material and practical) ends of our will, we therefore merely adopt a maxim for the moral-practical application of the law: "**make the humanity of others thine end.**" If we truly work for the happiness of all, we shall never unjustly limit the freedom of any.

§ 71. The further deduction of particular duties, whether legal or moral, whether determinate apriori or indeterminate except upon presentation (in concreto, together with all for-

eign elements entering into any given case), contains no difficulty. And since elaboration has nowhere herein been our design (*intelligitur plus quam pingitur*, as of old by APPELLES), we may here pause. But there is one point which it may be well to illustrate:

He who endeavors so far as lies in his power to advance the humanity of all others and who is attentive not to permit his own person to be abused by any other, may nevertheless inconsiderately suppose that it is not unlawful for himself to make use of his own humanity as a bare means toward the attainment of his own minor ends (*ex gratia*, sensuous pleasure). But if he truly desires to obey the universal law of his own reason, he must reflect no less in this than in any instance whether his maxim can be constituted the universal rule of mankind. He who desires to please himself by (for example) masturbation, may justly urge that he is not restraining the freedom of any other, and may foolishly fancy that he is merely exercising his own, and that moreover not to the detriment of any. But such a man (not beast; for no creature less noble than man is capable of such ignominy) must know that if all men were to act in like manner, the inevitable consequence would be the physical and intellectual deterioration and ultimate extinction of the rational race, and thereby the avoidance of the law of reason and the defeat of any possible end of the law. And though he were so far to restrain himself as apparently not to injure his physical nature, his "ethical must without stop fade away and utterly perish." The will sensuously determined is not and cannot be free; and he who voluntarily blots out of the sum-total of universal freedom his own individual freedom, is more base than any slave.

As a doctrine, therefore, the formulation of the law in this view becomes: "**make thine own humanity thine own absolute end.**"

§ 72. We ought now to understand the drift and significance of these weighty words of KANT, in the critique of practical reason:

"Autonomy of will is the sole foundation of morality and of the duties springing from it; and every other principle whatsoever not only cannot found laws of necessary obliga-

tion and catholic extent, but is in fact subversive of morality. In being independent of the matter of any law (a desired object), and in being determinable by the legislative form of his own maxims, consists the ethical nature of man, and is that which renders him a subject for morality: that independence is freedom negatively, while this self-legislation is freedom positively. The moral law expresses therefore nothing else than just the autonomy of reason (*id est*, of a man's freedom or spontaneity); and this autonomy or freedom is a condition which must qualify every maxim, if these last are to harmonize with the moral law itself. On the contrary, when the matter of a volition (which can be nothing else than the object of a desire) is made part of the practical law and represented as a condition prerequisite to its possibility, then heteronomy (a false principle of morals) results; and the will ceases to prescribe to itself its own law and is left exposed to laws taken from pathological phenomena. In this case, however, the maxim adopted by the will is formally unfit for law universal; and not only founds no obligation, but goes to subvert the principles of practical reason itself, and so militates against genuine moral sentiments, even while the actions emanating from such heteronomy are not wanting in conformity to the law."

§ 73. The attempt to demonstrate the logical science of philosophic truth *in more geometrico* ever has been and must continue so far failure as to be nearly useless. While it may readily be admitted that all sensible schemata are irreducible into images (the latter being by virtue of determination totally inadequate to the former), it is nevertheless to be considered that the imagery of pure space contains no foreign admixture; and the determined example, immediately evident in intuition, admits no sources of error into the determination and is so far adequate to the rule as to constitute and exhibit complete certainty.

Very differently, impure material instances (subsumed under intelligible principles deduced through sensible schemata) involve in every exhibition in concreto so extensive and incalculable foreign elements, that (though they may much assist defective judgment) their impurities and uncertainties are with difficulty abstracted from, and for the most part are liable to be reflected into the formulation and to vitiate the representation of the *apriori* principle itself. In the single consideration of the radical difference between pure sense

and pure intellect is to be found the ultimate ground of the reasons—

I. Why mathematics is the apriori science first evolved by the human intellect, and now and ever must be the most completely deduced and elaborated.

II. Why the special pursuit of the mathematic science unfits the mind in general for the practical concerns of life and in particular for philosophic inquiry.

III. Why the deductions of philosophy, certainly determinable in the sensible world, must take the form of generalizations and can rarely be in any great extent satisfactorily presented in particular application. (By all which is not signified that experimental subsumptions are subjectively indeterminate or practically unsatisfactory; but only that theoretical applications of apriori deductions cannot be extensively determined by way of scientific doctrine.)

IV. Why popular expositions of philosophy are of little value, obscuring its abstractions and confusing its method, without thereby bringing them within the uneducated comprehension.

V. Why moral duties (offices of virtue) are chiefly of indeterminate extent and application, and cannot properly be otherwise stated.

The true end and aim of the virtuous philosopher must therefore ever be to teach the teachers of men; and he neither can nor ought to expect other than very mediate practical results (in human progress) from the most profound and earnest effort.

§ 74. Philosophy can never reconstitute the phenomenal character of reason, nor enter upon any inquiry as to the cause or occasion of its constitution, but may only venture to exhibit it as it is, and to search out and insist upon the true method of its regulation (§ 53) and advancement. No mathematical calculation can eliminate from existence in external relation the correlations and interrelations of coëxistence; nor (since the finite can be no otherwise developed than out of the INFINITE) is it possible that the foreign elements introduced by correlation should be (however approximately, nevertheless never) completely calculated. Herein lie the practical fallacies of Spinozism.

§ 75. By way of diversion, we may observe that the speculative (§ 31) fallacy of SPINOZA's system may be itself stated mathematically: if the relation of a part to a whole is not known, the most exhaustive knowledge of the part is (not merely not a complete knowledge of the whole, but) no knowledge whatever of the whole. Science dare not include the ABSOLUTE, the INFINITE, the UNCONDITIONED, in any other sense than as the original ground and ultimate completion of the relative, the finite, the limited: which latter cannot even be held the knowable member of a disjunctive proposition, but must be reverently regarded as included in, constituted by, and ever manifestly regulated by the ineffable former and originary. (§ 54.)

§ 76. Since however there are many minds which most readily seize the points of a simulated (quasi) mathematical method, and since the great KANT himself has seen fit to pursue to a limited extent the same course, we proceed here to collect (without demonstration) the more relevant positions hereinbefore involved or otherwise stated:

I. DEFINITION (by KANT).—Practical principles are propositions containing different rules, subordinate to them, which may be grounds of determining the will. They are either subjective, and are called maxims, when the rule is considered as of force only in reference to the thinking subject himself; or they are objective, and are called laws, when reason pronounces the rule to have an ethical virtue of obliging all reasonable beings. (§ 48.)

II. PROPOSITION (by KANT).—All practical principles which presuppose an object (matter chosen) as a determinator of the will, are one and all of them taken from experience and observation, and (being *aposteriori*) cannot supply a law of acting. (§ 54.)

III. PROPOSITION (by KANT).—All material practical principles, however different, agree in this: that they belong to one general system of eudaimonism and rest on self-love. The pleasure arising from the representation of the existence of a thing, when it is a determinator of the choice toward that thing, rests on the susceptibility of the individual and depends on the existence of the thing; and belongs for this reason to the sensory and not to the understanding, because this last refers a representation to the object by the intervention of a notion, and does not refer it to the subject by the intervention of a feeling. The pleasure is consequently only in so far practical, as the agreeable sensation expected by the

individual (from the object) determines his choice. But the consciousness of agreeable sensations, regarded as uninterrupted during the whole course of life, constitutes happiness; and the ruling principle to make regard to one's own happiness the supreme and single determination to action, is the principle which is justly called self-love.

IV. COROLLARY (by KANT).—Every material rule assigns a determination of choice taken from the lower powers [stimulated by the pleasures or pains of sense] of desire singly; and were there no FORMAL law of the will sufficient to determine it, it would needs follow that there existed no superior power [stimulated by pure reason] of desire at all. (§ 55.)

V. APODICT, generalized from experience.—Every finite intelligent agent has a rule of right and wrong (the moral law). (§§ 20, 61.)

VI. PROPOSITION, completely abstracting from all *aposteriori* matter and also from all sensible form (§ 34).—The law of reason is one and the same law. (Reason in *genere* being one and the same reason.) (§ 56.)

VII. COROLLARY.—No maxim unfit for law universal can possibly rest upon and be deduced from the moral law (which is the sole universal legislative form of the pure intellect). (§ 62.)

VIII. PROPOSITION (by KANT).—If an intelligent cogitates his maxims as practical laws of catholic extent, he can do so solely when his maxim is (not by its matter, but) by its form the determinator of volition. The matter of any practical principle is the object or end willed; and this end either determines the will or it does not. If the matter chosen regulates the choice, then the rule depends on the relation subsisting betwixt the feelings (of pleasure and pain) and the end represented (*id est*, on an *aposteriori* condition); and so the rule is unfit for a practical law (§ 4). But when the matter of a law is taken away, there remains nothing except the form of law in general. (§ 54.)

IX. PROBLEM (by KANT).—Upon the hypothesis that a maxim is solely by its legislative form the only valid determinator of choice: to find the nature of a will so determinable.

Since the abstract form of law in *genere* is cogitable by the force of reason singly, it is nowhat objected to the senses, and so no phenomenon occurring in space and time; and the idea of it, considered as a determinator of will, is wholly different in kind from the determinators of phenomena in the physical system, because in this last the determinator of a phenomenon is (by the law of the causal nexus) itself also always a phenomenon. Again: since by hypothesis no determinator of will is valid as law except the universal legislative

form, it follows that such a will is quite independent of the causal law by which phenomena are regulated. But to be independent of the law of cause and effect and of the mechanism of the physical system, is freedom in the strictest sense of the word.

A will, therefore, whose sole law is the legislative form of its maxims, is a free will. (§ 30.)

X. PROBLEM (by KANT).—Upon the hypothesis that a will is free: to find the law alone fit for its necessary determinator.

Since the matter of any practical law (*id est*, the object of a maxim) can only be given *aposteriori*; and the will is by hypothesis unaffected by any conditions *aposteriori*, and free, and yet cannot be cogitated as devoid of all law (§ 56): it remains that the free will must find in the law somewhat fit for its regulation, irrespective of the matter of the law. But when the matter of a law is taken away, there remains nothing except its legislative form.

The legislative form, therefore, contained in a maxim, is that which can alone determine a free will. (§ 30.)

XI. PROPOSITION.—The pure idea of a legislative form can be realized in sense (and so form part of a synthesis in the phenomenal world) only through a pure sensible schema. This schema must be a form which is in the sensible world as necessary and universal as the idea to be through it realized: hence no image and no particular determination, since none such would be adequate to the representation of the idea. (§ 59.)

XII. COROLLARY (from VI and XI).—The law of reason is realized through the abstract (pure sensible) form of the rational agent, her possessor and legislator. (§ 60.)

XIII. PROPOSITION.—The law, thus vitalized and represented as efficient, directs action (§§ 41, 47): So ACT as that thy maxims of will are fit for law universal (§ 62). No mere omission to do anything contrary to the law is complete obedience, or indeed any obedience whatever. The law is no less a rule of right than of wrong, and is either a law of action or no law (§ 55). What is RIGHT, that DO. (§ 57.)

XIV. PROPOSITION.—The law directs upon an end. For to act imports an aim and an end. (§§ 63, 64.)

XV. COROLLARY (from XIII and XIV).—The end of the law must be given in the law. Else were the command impractical and no more than empty words (§ 63). For to say that obedience is due to the mere form of the law is very just; but this implies no more than that there can be no question or choice of ends, not that there is no end (a conclusion repugnant to reason).

XVI. COROLLARY (from VI and XV).—The end of the moral law is one and the same end.

XVII. SCHOLIUM (from XIII and XV).—The form of the moral law, ordaining action in the world of sense, stated for the purpose of deducing from it particular duties (obligation toward particular ends), therefore becomes: Act with such ends in view as all rational agents must design. (§ 64.)

XVIII. COROLLARY (from XII and XVI).—No end less universal than the rational agent in genere is contained in the moral law. (§ 63.)

XIX. PROPOSITION.—The end of the moral law is the moral agent in genere (man). (§ 63.) “Make thine own humanity thine end.” (§ 71.)

XX. COROLLARY (from XVII and XIX).—Duties towards others are constituted upon the same basis as duties towards one's self. **SCHOLIUM**.—For their elucidation in general, abstraction must be made from all peculiarities and idiosyncracies; since they can rest only upon the personal character as a rational agent. “Make the humanity of others thine end.” (§ 70.)

XXI. COROLLARY (from XVII and XIX).—Duties towards others ARE duties towards one's self. (Else they were not duties: q. e. d.)

XXII. COROLLARY (from XVII and XIX).—Duties toward one's self are of universal objective validity, and—**SCHOLIUM**—must be commanded by one's self (id est, their observance must be required from all rational agents). “So act that all mankind shall be compelled to respect thy person.”—“Permit others to use thy humanity only as an absolute end.” (§ 65.)

XXIII. COROLLARY (from VII and XXII).—He who declares for himself the duties deduced from the moral law, declares them for all others, and constitutes himself a universal legislator. (§ 65.)

§ 77. If reason is sovereign, the subject who hears her voice thereupon immediately rests under obligation and has a duty to perform. (§ 20.) The obligation is expressed in the judgment that he OUGHT to perform the given duty. Obligation is therefore “the necessity of a free action” commanded by the law; and duty is the action commanded, “the matter of obligation.” Since in treating of law *apriori* we abstract from all matter (which can be supplied only by experience), duty in genere is no more than formal, a sort of schema cogitated as contained in obligation, which may be formulated thus: “The rational agent ought to obey his own supreme law”; and obligation becomes the duty of obedience to law.

It must not be supposed, however, that the power of reason

to enforce her law rests upon any such speculative and hypothetical OUGHT: exactly upon the contrary, the OUGHT is supported by the known power of reason, of which power it is the logical representative.

§ 78. But assuming that reason is sovereign, it follows that her law ought to and can subdue all opposing necessity of nature. And when the hundred-handed giants of sensuous appetite heap one upon another the mountains of use and habit, and from atop hurl stones into the kingdom of reason, although they escape destruction by the return (in accordance with the natural law) of these their weapons upon their own heads, they cannot escape the bolts of reason when she chooses to put forth her strength (§ 24). Every attempt to resist her power is followed inevitably by the terrific struggle which first reveals to man his freedom, and out of which alone is gathered virtue. But since this is a conflict between the ethical man and the phenomenal man, he knows that the will of the former is his very will, and that of the latter a deflected will misrepresenting and sinning against himself. The action of the one is therefore SELF-ACTION properly, and that of the other SELF-COUNTERACTION. And if reason for the more speedy reconquest of her rebellious empire calls in the help of sense against sense, and opposes to appetite extraneously determined (§ 45) an equally foreign determinator, whether a sensible habit of (acquired by) obedience, or pain resulting from contrasting her pure law with error, or advantage following upon due subjection and compliance: then an action so determined is SELF-CO-ACTION, the true man regarding the action (of his phenomenal self upon the one hand against his phenomenal self upon the other) as the act of an ally supporting his veritable self, and never as the act of an enemy.

§ 79. "The notion duty implies, in the very essence of it," says KANT, "the further notion necessitation, id est, co-action exercised by the law upon the choice; and this co-action may be either foreign or proper (self-command)." Now we know that liberty of choice consists in permitting the self-action of the law to overrule mechanical necessity. If any mechanical motive is allowed to rule, there is no liberty of choice. Hence, if duty essentially involves co-action

(whether foreign or proper, nevertheless mechanical), duty is irreconcilable with freedom.

§ 80. Strictly speaking, self-command is not of the nature of co-action: although it supplements and supports itself by co-action, the self commanded is not the self-commanding. Moral necessitation must be held to be action strictly, and not co-action. If the agent co-acts the moral necessitation by superadding to the representation of the law somewhat material as a counterbalance to such material action as is not in harmony with the law (*ex gratia*, the material benefit to result from adhering to the law), thereby counteracting the impure choice, he adds nothing to the duty to which he is obliged by reason, which duty is no more than obedience to law, and is completely fulfilled* by acting upon the pure representation of the law. Co-action may be foreign or proper (determined by a sensuous representation of subjective origin, or *ex gratia* by the penalty of a statute); but it cannot in either case be the naked representation of the law.

§ 81. Now as against a just co-action (whether foreign or proper) there may be called in (to the aid of the vicious material determination) an equally possible but contrary co-action, so styled from the phenomenal point of view: (*ex gratia*, a passion produced by reflection upon the "tyranny" of the law). But this co-action, operating against the representation of the law and in support of the unholy choice, is nothing moral. It is, however, this struggle against (rather than that in support of) moral necessitation, which is the most astonishing proof of freedom. (§ 45.)

§ 82. Since it is the MAN himself who (as it were instinctively) lays impediments in the way of his own ethical maxims, virtue ("the strength of the human will in the execution of duty") MAY BE REGARDED AS a self-counteraction, bringing sensuous feelings ("the moral sense") of intellectual origin ("conscience") to oppose mechanical determinators of the choice. But since it is the PERSON himself who lays these ethical impediments (moral sense) in the way of his own sensuously determined maxims (thereby adding to the

* The law cannot be completely fulfilled; but he who continually makes utmost effort to fulfil the law, thereby completely fulfils duty.

force of the naked idea duty), VIRTUE IS A SELF-CO-ACTION, "a command conducted upon a principle of inward freedom." (§ 53.)

§ 83. We discover, therefore, four species of action, all brought into exercise by the moral law; but only the one of which is the action of the law, constituted duty by the obligation of the law. These nice distinctions are really essential in science, and not merely hypercritical. For if we do not attend to them, if we do not complete our abstractions and clarify our terminology, we are continually liable to reflect upon abstract use some shadow of particular significance, obscuring (if not confounding) the argument. (§ 35.)

§ 84. And so it happens that KANT maintains that "all duty is necessitation (id est, co-action), even when it is self-action, conformably to a law; but whatever is done by constraint and co-action, that is not performed out of love." But duty MAY be performed out of love, and yet not cease to be duty; so that it MUST be performed. That which we would perform out of love we may omit without guilt, if so it be not at the same time duty. KANT is right in holding that love is not a duty; but he need not have urged that duty is not love.

And now we are fully prepared to understand that in ethics an end which directly results from the application of the law, (ex gratia, to love our neighbor as ourself) is obligatory, but only as end, never as a motive. That is, the (material and practical) end does not and cannot constitute the obligation, since that would vitiate the fountain of morality in its very source.

THOUGHTS ON LOGIC AND DIALECTIC.

Translated from the German of ARTHUR SCHOPENHAUER by CHARLES JOSÉFÉ.

[Chapter II. of the "Parerga" and "Paralipomena."]

§ 22. Every *general* truth is to the particular ones as gold is to silver, in that one can change it into a considerable number of particular truths, which follow from it, just as gold coin into

small money. For instance, that the whole life of a plant is a process of de-oxydation—that of the animal, on the contrary, is a process of oxydation; or that, wherever there is an electrical current, immediately arises a magnetic one, which cuts it at right angles: or, *nulla animalia vocalia, nisi quæ pulmonibus, respirant*; or, *tout animal fossil est un animal perdu*; or, no animal which lays eggs possesses a diaphragm;—all these are general truths, from which many particular ones can be deduced, to be employed in the explanation of occurring phenomena, or to anticipate such before their appearance. The general truths are of the same value in morals as in psychology; how golden is also here every general rule, every sentence of that kind—yea, every proverb! For they are the quintessence of thousands of antecedents which repeat themselves every day, and are exemplified and illustrated by them.

§ 23. An *analytical* judgment is nothing but a lengthened idea; a *synthetical* one, on the contrary, is the formation of a new idea out of two already existent in the intellect. But the combination of these must then be mediated and established by some contemplation (*anschauung*): now, as this is an empirical one, or one merely *a priori*, so also the judgment rising from it will be a synthetical one *a posteriori*, or one *a priori*.

Every *analytical* judgment contains a tautology, and every judgment without tautology is *synthetical*. From this it follows that in discourse analytical judgments are to be made use of only under the supposition, that he to whom we talk does not know the idea of the subject as perfectly, or does not remember it as exactly, as he who is speaking. Furthermore, we can distinguish among the geometrical theorems the synthetical ones through the fact that they contain no tautology; with the arithmetical ones this is not so striking, but none the less is it the case. As, for instance, that in counting from 1 to 4 and from 1 to 5, we repeat the unity just as often as in counting from 1 to 9, is no tautology, but is mediated through the mere contemplation of time, and not to be understood without this.

§ 24. From *one* proposition no more can follow than what is in it already, i. e. than it itself denotes for the exhaustive

understanding of its sense: but from *two* propositions there can follow more, if they are connected syllogistically to premises, than lies in either of them taken separately; just as a chemically composed body shows properties which do not belong to any of its constituent parts themselves. On this depends the value of the conclusions.

§ 25. Every *demonstration* is a logical deduction of the enunciated proposition from one already decided and certain, by means of another one as a second premise. The former proposition now must either itself possess immediate, or rather original, certainty, or must logically follow from one which does possess this. Such propositions of original certainty, i.e. mediated by no proof, as they compose the fundamental truths of all sciences, are always originated by transferring that which has been somehow intuitively comprehended into the mediated, the abstract. Therefore they are called *evident*; which predicate properly belongs to them only and not to the merely proved propositions, which, as "*conclusiones ex præmissis*," are to be called only consequential (*folgerichtig*). Their truth therefore is always but indirect, a derived and borrowed one: nevertheless they can be just as certain as any proposition of immediate truth; viz., if they are, even were it but by means of intervening propositions, correctly derived from such a one. Their truth is, even under this supposition, often more easily to be demonstrated, and made intelligible to every one, than that of an axiom, of a truth which can be conceived only immediately and intuitively; because to the recognition of such a one there are wanting sometimes the objective and sometimes the subjective conditions. This relation is analagous to the fact, that the steel-magnet, which is produced by communication, is not only just as strong, but often possesses even more power of attraction than the original magnet-ironstone.

The subjective conditions, namely, to the cognition of the immediate true propositions, compose what we call faculty of judgment; but this belongs to the prerogative of superior spirits; while no sound mind is in want of the ability to draw correct conclusions from given premises. For the stating of the original, immediate, true propositions demands the transferring of the intuitively comprehended into the abstract

cognition: but the ability to do this is in common minds extremely limited, and extends itself only to relations which are easily surveyed; as, for instance, the axioms of Euclid, or very simple, unequivocal, open, present facts. What lies outside of this province can get into their conviction only by way of proof; which demands no other immediate cognition but that which is expressed in logic by the principles of contradiction and identity, which repeat themselves in the proofs at every step. In such a manner, therefore, everything must be reduced for them to the most simple truths, which alone they are capable of comprehending. If, in doing this, we proceed from the general to the special, then it is Deduction; but if in the reverse direction, it is Induction.

But minds capable of judgment, on the contrary, and still more inventors and discoverers, possess the faculty of transition from the intuitive to the abstract in a much higher degree; so that it extends itself to the understanding of very complicated relations, by which the field of propositions of immediate truth is for them far more extensive, and embraces much of that whereof the others never can get more than the feeble, only mediated convictions. It is for these last especially that a proof is sought for every newly discovered truth, that is the leading back to truths already acknowledged, or otherwise indubitable. However, there are some cases where this is not possible. Thus, for instance, I cannot find any proof for the six fractions by means of which I have expressed the six principal colors, which alone furnish the insight into the peculiar, specific nature of each of them, and by means of which for the first time one can really explain the colors to the understanding: but still the immediate certainty of them is so great that scarcely any mind capable of judgment will doubt them in earnest; and for this reason Prof. Rosas of Vienna also has taken it upon himself to publish them as the result of his own insight. I refer to the *Will in Nature*, p. 19 (2d edit. 14).

§ 26. The *controversy*, the *disputing* on a theoretical object, can without doubt become very profitable for both parties implicated in it, since it corrects or confirms their thoughts, and also excites new ones. It is a friction or collision of two heads, which often gives sparks, but also is analogous to the

collision of two bodies in that the weaker often has to suffer, while the stronger is at his ease and only gives utterance to a triumphant note. In this respect, it is requisite that both disputants, at least in some measure, be fit for each other, as well in knowledge as in spirit and dexterity. If one lacks the first, then he will not be *au niveau*, and thus not accessible to the arguments of the other: he stands in the combat, as it were, outside of the ring. But if he is in want of the second, then the irritation which soon will be excited in him will entice him gradually to all kinds of faithlessness, evasion and chicanery in disputing, and, if these are natural in him, even to roughness. Therefore, just as to tournaments only men of equal birth are admitted, first of all a learned man never should dispute with unlearned ones; for against them he never can make use of his best arguments, because they are in want of knowledge to understand and to reflect upon them. If he tries nevertheless, in this difficulty, to make them intelligible to them, he generally will not succeed; nay, they even will sometimes, by means of a wrong and rude counter-argument, seem to have the advantage in the eyes of auditors who are just as ignorant as they themselves. Goethe therefore says:

“Lass Dich nur zu keiner Zeit
Zum Widerspruch verleiten:
Weise verfallen in Unwissenheit
Wen sie mit Unwissenden streiten.”

(Never allow yourself to be betrayed into a dispute; wise men fall into ignorance if they dispute with ignorant men.)

But one will be worse off yet if the opponent be in want of spirit and understanding, unless he try to make this deficiency good by a sincere aspiring towards truth and instruction. For otherwise he soon feels himself wounded in the most sensitive part; whereupon he who disputed with him soon will find out that he has no more to deal with intellect, but with that which is radical in man, his will, which is bent only upon victory, be it by fair or foul means; therefore his understanding is directed to nothing any more but to tricks, intrigues and uncandidness of all kinds, driven out of which he at last will have recourse to roughness, only to compensate in one way or other for his own conscious inferiority, and,

according to the condition of the circumstances of the disputants, may change the conflict of spirits into one of bodies, where he has better chances to hope for himself. Therefore the second rule is never to dispute with men of limited understanding. One may see already that there will not be many left with whom he perhaps could enter into a controversy. And indeed this should be done only with such as already belong to the exceptions. People, on the contrary, as they commonly are, are displeased at once if one is not of their opinion: but in this case they also ought to order their opinions in such a direction that one could agree with them. But now, in a controversy with them, one will, even if they do not have recourse to the above-mentioned *ultima ratio stultorum*, generally experience nothing but ill will; because he will not only have to deal with their intellectual incapacity, but soon also with their moral baseness. This will show itself in the repeated dishonesty of their proceedings in the dispute. The tricks, intrigues and chicaneries to which they have recourse so as to maintain their position, are so numerous, that in former years they were a special subject of meditation to me. This meditation directed itself to the merely formal element of the same, after I had found out that the same and identical tricks and intrigues always reappeared and were easily recognized, no matter how different the objects of discussion or the persons might have been. This led me at that time to the thought of separating clearly the merely formal element of the mentioned tricks and intrigues from the matter, and, as it were, of exhibiting them as a neat anatomical preparation. I consequently collected all those disingenuous artifices which occur so often in disputing, and exposed clearly every one in its proper nature, illustrated by examples and designated by a proper name, and lastly also added to this the means to be used against them, as it were the wards to these feints; whence arose in due form an eristic dialectic. In this the justly praised artifices, or stratagemata as eristic-dialectic figures, occupied that place which in logic is supplied by the syllogistic figures, and in rhetoric by the rhetorical ones, with both of which they have this in common, that they are in some measure innate, as their praxis precedes theory; one, therefore, to practise them needs not to have

learned them first. The mere formal exhibition of them, accordingly, would be a complement of that "technology of reason" (*Technik der Vernunft*), which, as consisting of logic, dialectic and rhetoric, is exhibited in the second volume of my principal work, chap. 9. As far as I know, there does not exist any former essay of this kind. I therefore could not take advantage of any previous work: only here and there could I make use of the *topica* of Aristotle, and apply to my purpose some of its rules to the erecting (*κατασκευδζειν*) and to the defeating (*ἀνασκευδζειν*) of the assertions. Corresponding to this must have been the writing of Theophrastus, Ἀγωνιστικὸν τῆς περὶ τοῦ ἐριστικοῦ λόγου θεωρίας, mentioned by Diogenes Laertius, which, together with all his rhetorical writings, is lost. Also Plato (de rep. V., p. 12, Bip.) alludes to an ἀντιλογικὴ τέχνη, which taught the ἐρίζειν as the διαλεκτικὴ does the διαλέγεσθαι. Of modern books comes nearest to my end the "*Tractatus logicus singularis, in quo processus disputandi seu officia, æque ac vitia disputantium exhibentur*," Halle, 1718, a writing of Friedemann Schneider, professor at that time at Halle, so far as he exposes different eristical artifices in the chapters on the *vitia*. However, he always keeps in sight only the academical disputations: also, upon the whole, his treatise of the subject is weak and poor, as such faculty-productions commonly are, and besides it is also written in remarkably bad Latin. The writing of Joachim Lange, "*Methodus disputandi*," published a year after, is decidedly better, but does not contain anything for my purpose. At a revision of that former work of mine, undertaken now, such a detailed and minute consideration of the by-ways and intrigues of which the mean nature of man makes use to hide its deficiencies, I do not find any more agreeable to my disposition of mind, therefore lay it aside. But to indicate more clearly my manner of treating of the subject to those who hereafter might be disposed to undertake such a thing, I will put here some of these *stratagemata* as samples; but first communicate just from that treatise the *outlines of the essential of every disputation*, as it furnishes the abstract fundamental stage, the skeleton as it were of the controversy,—consequently may pass as an osteology of it, and on account

of its easily being surveyed and of its clearness it well deserves to stand here. It runs thus:

In every disputation, be it held publicly, as in academical auditories and before the courts of justice, or be it held as mere conversation, the essential process is this:

A thesis is set up for confutation; to this end there are two *modi* and two *ways*.

1. The *modi* are—*ad rem* and *ad hominem*, or *ex concessis*. Only through the first one do we defeat the absolute or objective truth of the thesis, in showing that it does not agree with the nature of the matter in question. Through the other one, on the contrary, we only defeat its relative truth, in proving that it contradicts other assertions or concessions of the defendant of the thesis, or in proving the arguments untenable; whereby the objective truth of the matter properly remains undecided. For instance, if, in a controversy on philosophical and physical matter, the opponent (who to this purpose must be an Englishman) would permit himself to offer biblical arguments, then we may refute him with such, too; although they are mere *argumenta ad hominem*, and do not decide anything in the matter in question. It is as if we pay somebody in just the same paper money which we have received from him. In some cases this *modus procedendi* can be compared to that in which, before a court, a plaintiff should present a false note, which the defendant on his side should balance by a false receipt: the loan might none the less have taken place. But just as this last proceeding, so also the mere *argumentatio ad hominem* often has the advantage of shortness, as very often, in the one case as well as in the other, the true and fundamental clearing up of the matter would be very circumstantial and difficult.

2. The two ways now further are the *direct* and the *indirect*. The first one attacked the thesis in its *reasons*, the other in its *sequences*. The former proves that it is not true; the latter, that it could not be true. We will take them into nearer consideration.

A. In refuting on the *direct* way—that is, attacking the *reasons* of the thesis—we show either that they themselves are not true in saying, *nego majorem*, or *nego minorem*;—

through both do we attack the *matter* of the conclusions which supports the thesis. Or we consent to these reasons, but do show that this thesis does not follow from them;—hence we say, *nego consequentiam*; whereby we attack the *form* of the conclusion.

B. In refuting by the *indirect* way—that is, attacking the thesis by its *consequences*—to judge from their untruth of its untruth, by virtue of the law *a falsitate rationati ad falsitatem rationis valet consequentia*,—we can make use either of the mere *instance* or of the *apagoge*.

a. The instance, ἐνστάσις, is nothing but an *exemplum in contrarium*: it refutes the thesis by showing things or relations included in its statement, consequently following from it, but with which it evidently does not agree; hence it cannot be true.

β. The *apagoge* we bring about by previously accepting the thesis as being true, and then joining with it any other thesis admitted as true, and being uncontested in such a way that both of them will be the premises of a syllogism whose conclusion evidently is false, because it contradicts either the nature of things altogether, or the nature admitted as certain of the matter in question, or, lastly, some other assertion of the defender of the thesis: the *apagoge* therefore can be, in regard to its *modus*, as well merely *ad hominem* as *ad rem*. But if that conclusion contradicts quite indubitable truths, or even truths which are certain *a priori*, then we have the opponent reduced *ad absurdum*. Because the other premise added to it is of indubitable truth, the untruth of the conclusion must at all events issue from its thesis; this therefore *cannot* be true.

Every proceeding of attacking in disputing can be traced back to these formally exposed procedures: they are therefore in dialectic that which in the art of fencing are the regular thrusts, as tierce, quart, etc.; the tricks, or *stratagemata*, I have put together on the other side, what would be comparable perhaps to the feints; and, lastly, the personal sallies in disputing which by the university fencing masters are called “sow-strokes” (*Sau-Hiebe*). As examples of those *stratagemata* which I have collected, the following ones may find here a place:

Seventh stratagem: the amplification. The assertion of the opponent is led beyond its natural limits, consequently taken in a larger sense than he intended, or even expressed in order to refute it conveniently in this sense.

Example.—A holds that the English surpass all other nations in dramatic art. B makes the apparent *instantia in contrarium*, that their accomplishments in music, and consequently also in the opera, are inferior. From this it follows, as a ward to this feint, that, on being contradicted, one has to limit his expressed assertion strictly to the expressions used, or to their fairly acceptable sense. For the more general an assertion is, to the more attacks it will be exposed.

Eighth stratagem: the making of consequence. One adds to the thesis of the opponent, often only tacitly, a second one, which through subject and predicate is allied to this: from these two premises now a false and generally odious conclusion is drawn, with which the opponent is charged.

Example.—A praises the French for exiling Charles X. B instantly replies, "And would you have us exile our king?" The thesis added by him tacitly as major is: All those that exile their kings are to be praised. This also can be led back to the *fallacia a dicto secundum quid ad dictum simpliciter*.

Ninth stratagem: the diversion. If one notices in the continuance of the disputation that he is upon a declining way, and that his opponent will be victorious, then he tries to prevent this mischance by means of a *mutatio controversiæ*, that is, by diverting the discussion to another subject, namely, to some subordinate subject, in case of necessity even by breaking off to such a one. This he tries now to attribute to the *thema* of the controversy instead of the original subject, so that his opponent must now abandon his impending victory to turn thither. But if one unhappily sees soon marching up another strong counter-argument, then speedily he does the same again, therefore breaks off again on something else; and this can be repeated ten times in a quarter of an hour; that is, if the opponent does not lose his patience. This strategetical diversion will be executed most skilfully if one passes insensibly and gradually to some subject allied to that in question, and, if possible, even to something which regards it only in other

relations. Less artful already will it be, if one retains only the subject of the thesis, but brings into question other relations to it, which may have nothing at all to do with this: for instance, if he passes over from the Buddhism of the Chinese to their commerce in tea. But now, if even this is not practicable, then one takes up some expression accidentally used by the opponent, to commence with this a quite new controversy and thus to get rid of the former one. For instance, the opponent having expressed himself thus: "Just there is the mystery of the matter"; we at once interrupt him, saying, "Well, if you are talking of mysteries and mystics, then I cannot answer you: for regarding these," etc., and now the open field will be gained. But, if there even is no chance for doing this, then one must go about it still more boldly, and suddenly run to a quite different subject, as, for instance, in saying: "Yes, and thus lately you pretended, too," etc. The diversion, after all, is of all tricks of which uncandid disputants, quite instinctively, make use of, the most favorite and most customary one, and also nearly always certain to be used as soon as they get into difficulties.

Of such *stratagemata* I had collected and completed about forty. But the examination of these lurking-holes of shallowness, incapacity united with obstinacy, frivolity and disingenuousness, now disgusts me. Therefore I leave off with this example, and only point seriously to the reasons given above for the avoiding of disputing with people such as most of them are. One may try, perhaps, to help the comprehension of another through arguments; but as soon as he notices any obstinacy in his replies he should break off at once. For he soon also will become disingenuous, and in theory what a *sophisma* is, in practice is a chicanery. But the here mentioned *stratagemata* are still much more contemptible than the sophisms; for in these the will takes the mask of the understanding in which to play its part, something that always turns out most abominably. For but few things call forth such an indignation as the detecting that a person intentionally misunderstands. He who does not let pass good reasons of his opponent, either proves that he has a directly weak understanding, or one that is kept under by the dominion of his own will—that is, an indirectly feeble understanding.

Therefore one should only hunt about with such a one, where it is required by office or duty. Notwithstanding all this, I must confess, so as to do justice to these intrigues, that, in giving up his opinion at a striking argument of his opponent, one also may be too hasty. We feel the force of such an argument, but the counter-arguments and whatever else could save one's assertion do not come to our mind just as quickly. If now, in such a case, we all at once give up our thesis, it may happen that in doing this we become unfaithful to truth; since it afterwards may be found that we were right, but, from weakness and want of confidence in our cause, yielded to the momentary impression. It even may be, that the proof we gave for our thesis was really wrong, but that there existed another and a good one for it. In the feeling of this it happens, that even sincere and truth-loving persons not easily yield immediately to a good argument, but rather try a short resistance; nay, even then stand to their position awhile, if the counter-argumentation has made them rather doubtful of its truth. In doing this, they resemble the commander who tries, in hope of succor, to keep a position, although he knows that he cannot remain master of it. They hope, while they defend themselves with bad reasons, that the good ones in the mean time will occur to them, or that the mere speciousness of the argument of the opponent will become clear to them. In this manner one is almost forced to a little disingenuousness in disputing, as momentarily he has to combat not so much for truth as for his position. Thus far this is a consequence of the uncertainty of truth and of the imperfection of the human intellect. But now immediately arises the danger of going too far in it, of fighting too long with a bad conviction; lastly, of becoming obdurate and giving way to the meanness of human nature, of defending his thesis *per fas et nefas*, therefore also with the aid of disingenuous *stratagemata*, of sticking to it "*mordicus*." Here his good genius may protect every one, so that he needs not afterward to be ashamed of himself. Meanwhile a clear understanding of the nature of the matter spoken of will lead undoubtedly to self-improvement in this respect.

THE DIALECTIC AND THE PRINCIPLE OF CONTRADICTION.*

Translated from the German of Dr. C. L. MICHELET by LOUIS SOLDAN.

When Hegel condescended on one occasion to defend himself against some quite inferior attacks, to wit, of Catholic priests and other persons, this hero of science compared himself to the hero of war of the Prussian state, Frederic II., who said to one of his generals after the battle of Kunnersdorf: "Just see, with such a rabble I have to scuffle!" It was not given to Hegel to have an opponent of equal rank to contend with, such as Plato found in Aristotle or Fichte in Schelling. The feet of those who were to carry him out, failed to come. Under the cross-fire of the pigmies which creep up to him, he stands unhurt and unshaken, like a rock in the roaring sea. And neither the public reputation of the one, nor the obscurity of the other—both internally worthless—nor least of all the potent disfavor of the governing class, could shake his fame, though the latter may have helped very much to confine to narrower limits for a time the appreciation of this hero, and even the effectiveness of his labors, by patronizing his adversaries.

Herr v. Hartmann has "never come into personal contact with any teacher of philosophy" (Pref. p. iii). Nevertheless he ventures, "far from the strife of philosophical schools," upon a very detailed critique of the Hegelian Dialectic, and is not afraid merely to repeat what has been said before, though other opponents—Trendelenburg to begin with—spring forth by scores like mushrooms. Because they have not yet sufficiently killed the common enemy—as it certainly appears to the author—he feels himself the man to enter the lists again, to break again a lance, and as a brave champion to make an end with "the giddy sham that was to rise over Kant's tomb" (p. 23). If others, as Mr. Bergmann for instance, repeating merely Trendelenburg's assertion, call the philosophical systems after Kant an "intoxication," it may be said that the expression "giddy" is no very original one, inasmuch as giddi-

* A critique on the publication, "On the Dialectic Method. Historical-Critical Inquiries. By E. v. Hartmann. Berlin, 1868. Published by Carl Duncker."

ness is commonly the first natural consequence of intoxication. But although our author does not feel giddy at the apprehension "that the present undertaking might appear presuming," yet he wishes to "call to mind that there is no other piety toward the heroes of science" than to "examine their productions more carefully than anybody else's" (p. v). Whereupon we have only to remark that if but one fourth of what Hegel is reproached with be true—if indeed Mr. Hartmann could with good reason point out in the Dialectic "crack-brained statements" (pp. 52–54), "sophisms" (pp. 71, 75), "tricks" (p. 79), "hushing of facts" (pp. 80–81),—then Hegel would not be the hero at all, whom even his assailant (his most embittered animosities notwithstanding) wishes and is obliged to acknowledge him to be. By this, of course, the "piety" displayed before, comes down to the level of a mere conversational phrase. Still it must be acknowledged that Mr. Hartmann does not ignore altogether the dialectic method as others have done in their attacks, but magnanimously stoops to an ample refutation of it.

In this attempt, the confession of Weisse—himself an opponent of Hegel—that "Hegel's only achievement" is "the invention of the true method," proves very offensive to our author (p. iii). For, if this were the case, the calamity, so deplorable to our author, will happen that "all attacks against the Hegelian philosophy and logic are lost for the critic of the dialectic method," and consequently even his own book would have to find its way into the waste-basket. "For it might well be that this instrument is still at this moment waiting for the artist who will make the proper use of it." To keep off such a horror, Herr v. Hartmann declines to follow Weisse (who rejected only the results of Hegel's Dialectic) in taking hold of the nag by the tail. He undertakes, on the contrary, to seize the bull by its horns in "assigning to the results of Hegel's philosophy (aside from the method by which they have been gained) a necessary place in the development of philosophy. *Principiis obsta* is his motto. Yet no! at p. 119 Mr. Hartmann changes his mind, and will allow that necessary place not only to the principal results of Hegelian philosophy, but also to its "fundamental principles." What a contradiction! as the fundamental principles

can be nothing else than the method, the way of gaining the results.

The whole of the present book is divided into two parts, one historical (pp. 1-34) and the other polemical (pp. 35-124), which we will now pass under review.

I.

In the first part, the author's attempts are designed to tear Hegel out from the connection of the history of philosophy—to isolate him. Of course; for if "Hegel's assertion, that by his method merely the form of exact science and perfection was given to that which the majority of great philosophers attempted before with more or less consciousness," happened to be true, our author's whole enterprise would again fall to the ground. For he himself seems not to be equal to the Herculean task of impeaching the entire gallery of heroes of science with tolerable swindling or underhand tricks. And so he endeavors merely to show in this most concise outline of the history of philosophy, which manifests an uncommonly deficient knowledge of it, and particularly great ignorance of its original, that Hegel's predecessors were driving with their Dialectic at quite a different thing from what Hegel purposed with his. Even when he is not able to efface the quite obvious close relation between Hegel and three or four other philosophers, i. e. Heraklitus, Plato, Proklus, and Nicolas Cusanus: he nevertheless tries now this shift, and then some other, to separate Hegel also from these. Let us briefly go over the four.

Heraklitus, says our author, "considers the process as the principal thing." Very true! Of this principle, Mr. Hartmann will admit only that "every change is a transition of one condition or state into its opposite"; but agrees with Aristotle's objection, that "Heraklitus violated the principle of contradiction when he asserted that everything has always the opposite in it, and that everything *is* and is not at the same time"; and thinks most wisely, squinting and hinting at Hegel, that "the outgrowths of this abortion do not offer any support to the products of our century which require the highest mental maturity." Now here only the length of time is represented to separate Heraklitus and Hegel, as the con-

tents will by no means allow of such a separation. But with this Mr. Hartmann has laid bare the very centre of his battery of attack against Hegel. For he is ready to admit that antitheses change into each other, but not that one is contained in the other, because this would exclude the principle of contradiction. As if antitheses could pass into each other without being developed from each other. As if not also the identity of antitheses expressed in this could preserve their difference, and thus not at all conflict with the principle of contradiction. Mr. Hartmann, as it appears, is a great deal bolder than even Mr. Bergmann, who allots to German philosophy the prodigious task of denying that the understanding is governed by logical laws; or what with Mr. Bergmann manifests itself only as a suspicion, has become a certainty with Mr. Hartmann.

Even where the author must admit that Heraklitus is completely a dialectician in the Hegelian sense, he grudges Hegel's agreement with Plato, and wants therefore to distinguish essentially Plato's dialectic from Hegel's both in substance and language. "Plato denies," it says on p. 8, "that an idea might by itself pass into another, or that it might contain antitheses at the same time and in the same relation. Now it is but these latter two points that separate Hegel's Dialectic from sound common sense." Against this pert assertion stands however, according to the author's own confession, at least *one* passage in Plato over which he wishes to get by the following turn: Hegel, to identify his dialectic with Plato's, "rests on a single obscure and disputed passage of the Sophist, which, in whatever way you may construe it grammatically, will at any rate exclude the Hegelian interpretation" (Soph. p. 259). It is incredible that after my correspondence with the author on this passage, it should still appear to him obscure and doubtful, which it never has been nor can be to any one possessing even but a fair knowledge of Greek. I therefore decline to show him also in its proper light the former passage of the Sophist, about which he seems to ask also my opinion in his last letter; and merely say that it does not depend upon one passage in Plato, but upon his whole dialectic in connection, to furnish the sun-clear proof that Plato "pronounces to be the true dialectic" the same which Hegel has in mind.

According to Plato, Dialectic is no longer, as with Heraklitus, the Process of the sensuous things, but of the Ideas in and for themselves. And as the ideas are themselves the divine, they—or the idea (λόγος)—intermingle and pass through each other (δι' αὐτῶν εἰς αὐτὰ), they are also in the same respect the One in which they are the other (ὅταν τις φῇ τὰντὸν ὄν ἕτερον ἐκείνη καὶ κατ' ἐκεῖνο ὃ φησι τούτων πεπονηθέναι πόττερον). Thus, for instance, the One is the infinite Many because each is ONE; and for this reason has two parts, BEING and ONE; each part again has two others, and so on *ad infinitum*. But inasmuch as One is *One*, it has conversely not many parts, because in this case it would be *Many* and not *One*; and as infinitely small, it is Nothing. Thus the One is in the same respect One and Many, Nothing and the Infinite. At the same time the two are not in the same way (ὁμοίως) identical. For Being and Nothing, One and Many, form also an absolute antithesis. In this way Plato does not sin against the principle of contradiction and just as little does Hegel, as they do justice both to the antithesis and to the unity. But the unity would however be outflanked by the antithesis in case we held asunder the antitheses in such a manner as to predicate them of One thing only in some way or other (ἀμῷ γέ πῃ): as in calling Six great against Four and small against Eight; or Socrates one of Seven, but Many by his parts. This is what Plato and Hegel term prating and the work of a tyro, while the author (p. 62) pronounces this very thing true dialectic. In the application of the ideas to sensuous things the separation and final disjunction of opposites takes place, while in their state of pure being-in-itself they change into each other. Yet wherever in the sphere of the Finite the Infinite as a resemblance to the ideas is bursting through, there will also exist an intermingling of ideas: so nature is Becoming, Life, Activity, because Being and Non-being are united in her inseparably; so music, virtue, are harmony and beauty, because in them the Definite and the Indefinite (ἀπειρον and πέρας) blend. These are Plato's own words, taken faithfully from the Parmenides, Sophist, Philebus, and other dialogues. And the thorough knowledge of the Platonic dialectic depends neither upon the interpreting ingenuity of a model professor of philology nor the impotency of an amateur-bungler. Thus even Mr. Hart-

mann does not wish to deny the possibility "that already Plato had before his mind as a distant ideal the identification of opposites in the Hegelian sense" (p. 7). This is perfectly sufficient for us, and we reject most emphatically in Plato's name the ignoble motive of indolence imputed to him.

To alienate Proklus from Hegel, and to counterpoise the undeniable development of the world out of the conception of the $\epsilon\nu$ in Proklus, Zeller is called to aid, "who himself arisen from the Hegelian school, deserted it in later times." This incident, instead of serving his purpose, should have been the very thing to put Mr. Hartmann on his guard against Zeller. Zeller accuses Proklus of scholasticism, and "sterile and monotonous formalism" (p. 12). Whereby it is only astonishing, as the same reproach has been made against Hegel, that Mr. Hartmann has not seen even in this a sort of a resemblance between Proklus and Hegel. So greatly Mr. Hartmann mistakes the advantage offered to him by Mr. Zeller's weapons and those of other predecessors; but he does not want to see similarity at any rate, because he is bent upon setting Proklus and Hegel at variance.

On Nicolas Cusanus' views, whom Hegel strangely enough appears not to have known, he says on p. 17: "If this doctrine has in its discrimination between *reason* and *intellect*, and the principle of the *coincidentia contrariorum*, the greatest similarity to Hegel, it is still essentially distinguished from it both by the highest stage placed above the intellect and by the impotent infinite process of ascent": which two deviations do not lessen at all the similarity of the dialectic of the two.

Then Mr. Hartmann finds a still greater resemblance to Hegel in GIORDANO BRUNO (p. 18), inasmuch as the latter set forth with special emphasis, that only in God himself all antitheses are at the same time and without any difference of time united; that, on the contrary, in all worldly things perfection consisted only in this, that each and every thing can and must in the course of time become each and everything else. Bruno has also pronounced as "the peculiar and deepest secret of art" to "develop from the point of union also its antithesis." It is very droll, of course, how there should still exist "the enormous difference between the two," that, with Bruno, the *philosopher* has to develop the idea out of its an-

tithesis, but with Hegel the idea *itself*." To which we have only to reply, that the philosopher would act very wrongly if he performed this development when the idea refused to do it itself. By the way of consolation, we may assure Mr. Hartmann that in this the philosopher and the idea go hand in hand; that the idea is but the personified philosopher. And thus in his "short description of the dialectic method" he himself paints it quite correctly in this way: The self-movement of the idea is just as much the objective course of the thing itself as it is the thinking process in the philosopher's head" (p. 37).

The exposition, finally, of the philosophical systems of Kant, Fichte, and Schelling, as being perfectly separated from the Hegelian dialectic, bears moreover testimony of the greatest ignorance of this part also of the history of philosophy, as everybody who has lived through it, or has restored it to new life within himself by study, will have seen also before his very eyes the gradual growth of the Hegelian dialectic from those stand-points. By which, of course, we do not mean to deny that Hegel added to it the keystone of perfection by his own efforts—the essential point which our author either would not or could not appreciate. We will ask him, however, if he is unable to find "something of Hegel's dialectic principles" in Kant's assertion, that the first two categories of each class—thus, for instance, Reality and Negation—are the opposites united in the third category, Limitation?

While Kant presents the result of this dialectic as an assertion merely without attempting to deduce it, Fichte undertakes this, as the author states it himself by quoting Fichte's words, as follows (p. 25): "We must ask ourselves, how can A and —A, Being and Non-being, Reality and Negation, be thought together without annihilating and cancelling each other?" Fichte finding the solution, like Kant, in the idea of Limitation, has almost given Hegel his cue, who says, in the same way, that, in the Becoming, Being and Non-being are both preserved (i. e. *not* annihilated) and cancelled. Neither of these philosophers, however, thinks that he has cancelled by this the principle of contradiction. Mr. Hartmann alone sees this in it, but he charges only Hegel with it (p. 78). * *

* * * * * But while Mr. Hartmann pretends to see in Fichte only sober and healthy understanding, and no superabundance of reason, he should have been more considerate in lavishing praise on him at Hegel's expense, as the author seems to agree with Herbart's opinion, who throws Fichte very much in the same category with his successors;—this should also have made Mr. Bergmann more considerate before giving himself over to the extravagancies of the intellectual intuition. Herbart's words are these: "Fichte retained the unthinkable (*undenkbaren*) thought; he gave it authority by the assumption of an intellectual intuition: and thus one of the greatest thinkers that ever existed became the originator of a visionary movement which thereafter, when it chose for its central-point the so-called absolute identity, banished philosophy from a wide circle, because one did not want to lose one's reason about the intellectual intuition." Such classical sobriety Hegel's two opposers, to which we have referred hitherto, ought to have taken for an example!

At the close of this part Mr. Hartmann wants to absolve also Schelling, the originator of the absolute identity, from any community with Hegel; in saying: "When he speaks of the identity of opposites, it is only a misuse of the word; for he does not at all mean by it Oneness or Sameness, but organic unity" (pp. 29–30). Now this is the very thing that Hegel means too. And the author is *naïve* enough to admit this in part: "Hegel however uses, as we shall see, the word Identity sometimes in Schelling's, sometimes in its proper (Aristotelian) meaning, producing thereby unlimited confusion." Is it possible to speak more unreasonably about this modern Aristotle? And does the "unlimited confusion" not lie rather in Mr. Hartmann's brain? As in the original system Schelling's identity of the Infinite and the Finite, the Universal and the Particular, the Essence and the Form, the Ideal and the Real, conveyed too undeniably the fusion of the opposites, Mr. Hartmann contents himself with attempting to demonstrate the contradistinction between Schelling and Hegel by the polemic of New-Schellingism against the dialectic method; which, of course, is not a too difficult undertaking

after all, and affords an extremely easy triumph. "So far," he exclaims pathetically, "was the only contemporary who was Hegel's peer from allowing himself to be dazzled by his dialectic" (p. 31). But it is a mistake of Mr. Hartmann's to place this polemic of Schelling in his early period, as the editor of Schelling's works places it expressly in the year 1827, in the München period (Schelling's Works I. 10, p. vi); whereas Schelling himself, in the essay from which this polemic is taken, already calls Hegel's Philosophy an episode, and even the difference between positive and negative philosophy is mentioned (p. 126). Nevertheless it is highly characteristic that Mr. Hartmann will read from even the very latest words of Schelling that the latter was ashamed of having become unfaithful to the old prejudice of absolute science, and of having arrived at the better knowledge that it was possible, only by following an inductive procedure, to learn anything to which there is a content. Thus was still clinging to Hegel this "only contemporary who was Hegel's peer," whom Mr. Hartmann is bent so eagerly on separating from him.

II.

The second and greater part of the treatise is devoted almost exclusively to the "critique of the Dialectic Method."

To define his "position to the dialectic method" Mr. Hartmann begins his critique by a critique of my critique on Trendelenburg in the "*Gedanke*." Mr. Trendelenburg had said that Hegel infers, according to the second Aristotelian figure, "Being is the Indeterminate, Nought is the Indeterminate; therefore Being is Nought": as if a man and a goose were the same because both have two legs. I had replied to this, that both conceptions have other predicates in common besides, as simplicity, immediateness, pure abstraction. In the same respect therefore in which Being is, for instance, the purest abstraction, it is also nought—that is, on account of its want of content. But as, according to the principle of contradiction, Being is simply opposite to Nought, this Identity is to be conceived as transition in the Becoming. Such a changing of opposites into each other, even Mr. Hartmann finds unobjectionable (p. 7). Why, then, does he blame the Hegelian Dialectic for the same thing? When he puts to the latter the alternative that the Identity of Being and Nought

must be either a partial or a total one (pp. 39–40), I answer: then it is partial when these categories rest outside of each other, because they then fall, as opposites, outside of each other.

In the Becoming, however, the Identity of the opposite has become a total one, because they form there the inseparable Moments of a new idea. These are facts of our thinking, and I do not know how Mr. Hartmann will manage to get round them.

The monstrous delusion and error of the author consists in thinking that Hegel, in maintaining the existence of contradiction—nay, in declaring all things contradictory for themselves—has negated the principle of contradiction, while by this very doctrine he acknowledged it. Not he contradicts himself who admits the existence of contradictions, but he who asserts what is contradictory. We shall see presently, however, that Mr. Hartmann's book everywhere swarms with contradictions. Though this circumstance would make it impossible according to Mr. Hartmann's opinion (p. 31), our judgment nevertheless shall not preclude the book from existence. Just in the same way history abounds with contradictions; still it exists—nay, for this reason it progresses. For contradiction is not Nought, an impossibility, but rather the source of motion, by which the former negates itself, even if by this a new difficulty is created. So it is indeed a misunderstanding when Mr. Hartmann charges that "the negation of the principle of contradiction is the *conditio sine qua non* for the existence of the Dialectic" (p. 41). To identify contradictories (horse and non-horse) is to negate the principle of contradiction: this Hegel never does; he only identifies contraries, as in Grey, Black and White, or Light and Darkness in Color. An atom of salt is to us base and acid in inseparable union, against which the Understanding sure enough says that atoms of base and of acid are only side by side in the salt. But as we see the opposites in One and still do not at all call it a contradiction, this Mr. Hartmann terms "the Dialectic is caught in its own net" (p. 43); and yet he knows the difference between contrary and contradictory very well, and knows also that we make the distinction too. Such contradiction lives in himself.

Since from this one misunderstanding, as from an arsenal, Mr. Hartmann's whole apparatus of arms of attack is taken, I might be content with this and save myself reiteration. In this Mr. Hartmann confirms me himself when he is *naïve* enough to admit that one can never detect the genuine dialectician in an *absurdity*; but that with the non-dialectic critic it will be as with one hunting spectres (pp. 43-44).—Therefore I shall have to mention of such a critique only what besides this will perhaps be found prominent in the way of unusual solecisms. For it is, properly speaking, "to be considered inconsequent in a dialectician if he engages in the refutation of such attacks from his opponent (p. 44). Yes, indeed! Besides, I have already communicated to the author, in writing, all my objections against his whole manuscript *ad marginem*. All warnings, however, remained without the slightest effect; he prints the entire trash, even that the dialectic must necessarily, by negating the principle of contradiction, become dangerous to mathematics and to—criminal law (p. 92), and the other absurdities of this and the following page, which I skip in order to make the reader curious to read them. Even Kuno Fischer's quite correct explanation, that "the question was not about the identity of contradictories, but about the Oneness of the opposites in the dialectic development" (p. 109), could not bring Mr. Hartmann to the right track. It applies, therefore, to other people than those at whom Mr. Hartmann has aimed it, "that contradiction can only be found where one has fallen into it before" (pp. 94-95). Now he has, before the eyes of the public at large, to stand the reproof which I first sent him in a confidential letter.

The next point to which I wish to call special attention is, that Mr. Hartmann says: "the essential task of the critic of the dialectic method is to exhibit the consequences of the negation of the principle of contradiction" (p. 45). But as we do not at all negate the principle of contradiction, nothing material remains, but something quite immaterial; hence spectres in very truth, which he is hunting also in the remaining part of his publication, up to the very end, faithfully and indefatigably. Mr. Bergmann was at least looking for an intermediate position between common logic and speculative

dialectic. Mr. Hartmann remains resolutely aground on the secure sands of the former.

Where the author afterwards comes to a refutation of the Hegelian idea of Infinity, we read the following: "Any idea can receive the predicate infinite only in so far as it has a quantitative side" (p. 49); "but for Hegel there *is* no quantitative infinity at all in the true sense of the word" (p. 48). But two pages before, it is: The infinitely great is an impossible idea, because it represents the Infinite as really existing, and therefore has in itself the contradiction of an infinity given as finished. That there is no quantitative infinity, for which Hegel is reproved two pages after, the author here avers to be true; to him, therefore, the False is the True—and this he does not call negation of the principle of contradiction. Hegel, he further thinks, knows only qualitative infinities; and, to refute these, Mr. Hartmann adds that it would be all nonsense to say "infinitely bare-footed" (pp. 48–49). Does, perchance, the expression "infinitely silly" suit him better? As far as we know, the infinity with Hegel comes in but with the negation of limit, i. e. of the one-sided qualitative, therefore with the totality and ideality of the qualities. While the author attributes "Indeterminateness" to Hegel's Infinity, this infinity is just the opposite of indeterminateness, as it is the self-determining. One who thus kicks at random at a noble philosophy should first learn the facts before he dares to criticise what he neither understands, nor seems able ever to learn to understand. But so much the principle of contradiction with our author commences to totter, that he says in the same breath the opposite from what he has said about the indeterminateness in Hegel: "that the idea precipitates into another determinateness, NOT INTO THE NEGATIVE INDETERMINATE; that it preserves in each determinateness its indeterminateness, this is even the qualitative infinitude of Hegel." (p. 50.)

When Mr. Hartmann asserts that nobody before Hegel, except Nicolas Cusanus, has placed in antagonism understanding and reason, I refer to Kant, to Jacobi in his later writings, to Plato's *διδωκία* and *ἐπιστήμη* or *νοῦς*, to Aristotle's *ἐπιστήμη ἀποδεικτική* in opposition to *νοῦς* or *νόησις*. This is the way in which Mr. Hartmann knows the history of philosophy! In

this way he forgets the lamentations which he has uttered himself that Kant distinguishes between understanding and reason. If Mr. Hartmann wonders that "reason is known to so few" (p. 55), it remained but with him to increase this number instead of siding with the unreasoning multitude.

The few who ever knew, for knowledge's sake
Have ended on the cross and on the stake.

If he furthermore wonders that the majority of men, though they live, act, and are in it, and should necessarily be wholly pervaded by it, still deny its existence; he ought to have remembered the word of the other of these Dioscuri of poetry, that Truth walks ghostlike through the unknowing multitude, which does not even suspect her presence. The very thing which, according to Hegel, as the author mentions, "constitutes man's nature, REASON, is but scantily represented in the great majority"; and, to use an expression of mine, mentioned by the author, is seized upon only by the "favorites of the gods," because among mankind, as again Schiller says, the greater part are "blanks," and only a few, "prizes."

The Indeterminateness of the Infinite—so often and falsely imputed to Hegel by the author, which he also terms the "absolute fluidity of the idea"—Mr. Hartmann wants to explain on one side in stating that by this Indeterminateness it appears less repulsive to think the unity of contradiction—nay, that in the pure indeterminateness every contradiction had to vanish, so to say; on the other side, he directly denies this Indeterminateness, as in the absolute, on the contrary, "contradiction is preserved in its entire antithesis." Consequently, making the Indeterminateness (in which every contradiction disappears) the principle, means rather to make this Indeterminateness not the principle, as the antitheses are to be preserved. We await anxiously from the author a solution of this absolute contradiction. But even now it appears, from several examples quoted above, that not Hegel but Mr. Hartmann is guilty of negating the principle of contradiction, though in the most innocent way in the world, as he has not the least idea of the reach of his accusations. That Hegel allows the contradiction to exist, and in the absolute Indeterminate, posits and engulfs the totality of all things

existing (p. 76), is again one of those spectres which Mr. Hartmann is hunting. This contradiction, as we have seen above, is solved in the principle of self-determination, inasmuch as all the instances of ideal determinateness (*Bestimmtheiten*) are therein posited as the moments of the absolute.

As to the *legitimation of the method* (p. 66), the author imputes to it that it draws its justification out of itself, being unable to justify itself before the understanding (p. 67). We ask whether it is possible to justify one of the antitheses before the tribunal of the other. The one, of course, rejects the other, and will certainly not yield and be fused into it. That Unity arises from opposites, and the latter from the former, can be justified itself only from a consideration of the case itself. The process of things, like that of thoughts, must be traced and has been traced in experience. This internal rhythmus of the thing itself, which the philosopher is called to witness without influencing it (p. 37), is consummated by itself in the dialectic of the world, as Schelling calls it, as well as in science. And in this very fact lies the confidence of the dialectic method of being this science which is its own proof. Each criterion adduced from outside would make it dependent: the criterion would have to be proven again, and so on *ad infinitum*; the proof would hang in the air unsupported. Yet *veritas est index sui et falsi*.

From the chapter on *The Contradiction*, which intends to show how Hegel exhibits the contradiction in all and everything, we have stated before, the principal among the supposed tricks of dialectic and considered the same. There are only a few "tricks of the meaner order" left of which Mr. Hartmann accuses the dialectic method (p. 79). I will not deny that the dialectic by which Hegel makes Equality and Inequality pass over into each other (Works, IV., pp. 42-43) is an impure one like that with which Hegel reproaches Plato in the passage in Parmenides where One changes into Many. But to reproach Hegel with an "artificial confusion" is as little justified as if Mr. Hartmann had reproached Plato with it, if he had known that passage. I, for one, should have given the dialectic of Equality and Inequality in this way: We cannot at all posit two things as equal which are not unequal at the same time, as they would otherwise not be Two,

but only One. And Similarity is just the idea in which Equality and Inequality while perfect antitheses, yet are simply one. If this assertion negated the principle of contradiction, the fault would lie with the idea of similarity itself; we would wash our hands of it. In mathematics, of course, Equality and Similarity are separate, inasmuch as two equal triangles, as ideal things, are in fact but one; similar ones, however, two.

It is furthermore counted against Hegel as a sophism to assert, "because A and B are different that A has therefore the difference on itself" (p. 84); the sophism appears to be rather in the assertion, that the difference is not an attribute of A itself. For the difference, according to Mr. Hartmann, is only "to express the relation in which both are considered by the thinking process. The relation hovers between the two as a thing added from outside" (pp. 83-84). The amount of it is that ideas do not contain in themselves what the philosopher thinks about them—a monstrous sophism, if the thoughts were correct. So the dialectic method unmercifully has our critic "on the hip," and pushes him back into the snare which he has laid for others. He accuses Hegel with ascribing difference to Identity because it is different from difference, while this is an expression very common to Plato: which is further testimony against the author's above-mentioned efforts to separate Plato's and Hegel's Dialectics.

Opposites which demand each other, as cause and effect, the author further says, presuppose each other as separate, even if they cannot be separated in the thinking process, while the dialectic gives rise to the misrepresenting appearance as if each side contained or possessed its own contrast; which would, of course, be a contradiction (p. 85). But inasmuch as cause is only cause by having an effect, and this effect will not appear if it does not react against the cause—(Boreas may well break an oak but not a reed, because only the one and not the other offers resistance);—therefore the effect is only possible by the reaction, i. e. the cause is the effect of its own effect, the effect the cause of its own cause. Are here "the ideas of cause and effect inseparable only in the thinking process," or are they not rather so in reality too? Will not the author reconcile himself, as he styles it,

to think the contradiction? Or does he rather choose not to think the causality? The same quantity of motion is in the impelling hand-cause, in the impelled object-effect. Is quantity for this reason a contradiction? Here, too, the author opines (p. 86) that the contents of cause and effect are not identical. Yet the quantity of motion is identical in both, and solely in reference to this they are cause and effect. They are not at all cause and effect in what they are besides, flesh, wood, &c. In reciprocal action, where the identity of cause and effect exhibits itself still more plainly and lies in the very words, and therefore cannot be ignored, Mr. Hartmann finds consolation in the statement that Schopenhauer "has done away with this monstrous category forever" (!?). But what is the use of this doing away, if the Reaction to which the author gives an undeserved preference is not also thrown overboard?

Finally, it is stated that Hegel, in his view of the logical judgment, has committed the terrible offence, made the dreadful "confusion" (p. 88), of mistaking Unity and Identity (p. 86), for the purpose of being able to discover in each judgment a contradiction between its general form and its content (p. 89). Into the idea of Unity the idea of Identity is introduced, and from this point of view the copula is construed into a sign of identity between the several parts of the sentence (p. 90). Here we find again a whole nest of contradictions in the author's attacks, while he believes that he perceives them on the other side. The "*is*" of the copula is no doubt the sign of mathematical equality, as in every logic the form of judgment is $E = A$ or $S = P$. Now Hegel says nothing else but this: "That the form of the judgment expresses what the content does not mean at all." Hegel does not at all assert that subject and predicate are the same, or, as the author says, that "they become united to unity without contradiction" (p. 88). Then only, if Hegel had really made this assertion, he would have committed the contradiction which Mr. Hartmann wishes to see avoided. For what is One, is not Two; therefore quite coinciding. It is therefore again Mr. Hartmann who mistakes Unity and Identity. For Identity means exactly the combination of two which are different at the same time. Hegel only knows of the Identity of different

ones and of the difference of identical ones. What he means to say is therefore this: that even the quite shallow logical form of a judgment cannot kill wholly the speculative thought, the form bearing in itself the identity to which the difference of contents between subject and predicate does not correspond. This non-corresponding is equalized more and more in the higher forms of judgment, the predicate expressing in the categorical judgment the genus of the subject, in the assertorical one its idea, though, for all that, the difference will not wholly disappear.

If Mr. Hartmann thinks that Hegel is wronging Empiricism by accusing it of denying the supersensuous and freedom (pp. 71, 100), he ought to have consulted history, which would have shown him that these were indeed the consequences of Empiricism, as Locke was succeeded by Condillac, the French materialism of the 18th, and the German materialism of the 19th century. If, nevertheless, empiricism has produced in Mr. Trendelenburg, for instance, not materialism but "happiness in believing," this must be accounted for as inconsequence and not as consequence in this empiric. Otherwise belief were to be considered as experience; which has been done heretofore by mystics, but never by philosophers. For the attempted proof that Hegel's Dialectic and its "absolute" arose from a sensuous mysticism is such a magnificent piece of Hartmann-like deduction, that I cannot help referring the reader to it for his amusement. (pp. 63-64, 71-72, 77, 120.) Mr. Hartmann goes a good deal farther than Mr. Bergmann: "Experience is the only possible way to come to a content; for mystic conception is an individual rarity" (p. 111). Mr. Bergmann's intellectual intuition, which derives sensuousness from the thought, will probably be pronounced by Mr. Hartmann a fantastic conceit. If Mr. Hartmann has not yet caught the relation of dialectic and empiricism, even after the rebuke to which I subjected Mr. Trendelenburg in the "*Gedanke*," if he still sees in their unity nothing but *wind*, to use his own rather easy expression (pp. 113-15), he again stirred this wind himself, forgetful of the principle of contradiction. For, to refute my arguments, he says: "Michelet forgets that empiricism includes thought." Consequently, Mr. Hartmann admits the very thing about which we care,

and which he has imputed to us, and which we consequently cannot have forgotten. For if empiricism includes thinking, it is *one* with it. Thinking, I stated before to Mr. Bergmann, is in itself experience: and thoughtless empiricism is not a thing belonging to us, or with which we should like to deal.

Fancying to have thoroughly and fully refuted in the preceding pages the dialectic method, the author finally proposes the question: "how Hegel happened to strike upon his method" (p. 117). Here the author falls into an entirely unworthy contradiction. After having stated quite correctly the absolute origin of the method from the character of the thing, he undertakes to trace back this necessity to merely contingent circumstances. In the first respect, he says: "It seems that an apriori reproduction of the world's process must be possible before the individual consciousness," yet "it might bear little resemblance with the temporal genesis of the world"; but which "can only strengthen the hope for success, as the question is now about an eternal genesis—a process of thought which is the course of the thing itself. Thus on the whole the dialectic method arises from the principle of the Hegelian system, *which is not to be criticised here*. And here the method exhibits itself, mark well, in its pure shape" (p. 118). Very well! To the pure all things are pure. It is a pity that the author falls immediately afterwards into the very impure stupidity of the understanding, of representing the historic genesis of the system, in which indeed the Necessary enters under the appearance of Chance, as a mere disease of fashion: by this it becomes evident that his pretended unwillingness to criticise is mere irony. For if the author, after endeavoring in his historical part to dispute away the genesis of the Hegelian stand-point from the necessary evolution of the history of philosophy in our century, is pricked too deeply by his historical conscience; he has no choice but to transmute historical necessity into historical incident, and to denounce it as mere fashion:—"It was fashion to attribute to Kant's Antinomies an excessive, even a positive, value. It was fashion since Fichte to consider the so-called deduction of categories as the main subject of theoretical philosophy. It was fashion to philosophize in the triadic rhythm of thesis, antithesis, and synthesis. It was fashion

to misunderstand Schelling's transcendental intuition; to pass off philosophy in a pompous manner for the science of the absolute, and so forth. What a straining of history to denounce just the fundamental points of Hegel's three predecessors as 'external incidents,' merely to saw off from Hegel 'the pillars to his method'!" (p. 119.)

If the "jargon and gibberish" of the Hegelian language remained unintelligible to Mr. Hartmann, he would have done better to sound more closely this rugged depth instead of complaining about its unintelligibility after some superficial skipping over the pages. This complaint at least has gone out of fashion long ago, after the rich development of the Hegelian school has unlocked those depths without reducing them to shallowness, as the author at some places imputes humanely in parenthesis to the school (p. 95). If, aside from this, "Hegel's merits in philosophy of rights, æsthetics, philosophy of religion, philosophy of history, and history of philosophy," the whole philosophy indeed, are not to be estimated lightly, I should like very much to know how Hegel managed to accomplish this in spite of his method, which "brought in everywhere obscurity and confusion, made the plain difficult, and removed the dark and problematic farther from its solution" (pp. 119-20). How can merit be possible, as Hegel never made a single step without his method? Or this merit must of necessity be quite exorbitant, superhuman, as he had to overcome the difficulties which his method had prepared for him.

The *resumé* and the end of my critique is therefore: Not "the Hegelian dialectic embraces merely the spectres of its own imagination"; it is not "the dialectic that suffers of morbid excess of irritation" (p. 120). Mr. Hartmann, on the contrary, describes this with his own state of mind, "which can only show a contradiction in those places where it has carried it in" (p. 123). These contradictions have lodged and crammed themselves into such a "head" (p. 121) perhaps for the reason that Mr. Hartmann "has never come into personal contact with a teacher of philosophy," and even a teacher's letters have remained without any influence on him.

FACTS OF CONSCIOUSNESS.

Translated from the German of J. G. FICHTE, by A. E. KROGER.

PART FIRST.

THE THEORETICAL FACULTY.

CHAPTER IV.

CONCERNING TIME.

A.—The Ego has been posited absolutely through thinking; it exists absolutely independent of its own self-contemplation, and exists thus as free principle in the manner in which we have determined this conception above.

I add now: *a principle is necessarily infinite*. For if it ever ceased to be principle, and after any possible series of manifestations were finally to vanish altogether in some last one, it would not have been absolutely posited as principle, nor would being principle have constituted its real essence; it would have been simply the conditioned principle for such a determined series of manifestations.

In making this additional assertion, what sort of an insight do I produce in you? I reply that it is an insight created by an analysis of the given conception of a principle, and that we have found the conception of a principle to involve another conception. That is, if I—as I may or may not do—take hold of the conception of infinity, and, relating it to that of a principle, try to unite both in thinking, I discover that I not only can thus unite them, but must unite them. But infinity is rather a contemplation. Hence the proper expression in our case will be this: the conception of a principle—if that principle is not only thought but also contemplated, which may or may not be done—necessarily involves the law, that it can be contemplated only as an infinite principle. This is the fundamental law of analytical thinking, although an *a priori* law, which we here mention for the sake of logic which lacks it.

This infinite principle it is our present problem through our imagination to picture in its actual state of manifesting itself. It can be principle altogether only in relation to

itself—since there exists nothing outside of it—and in relation to itself only as a development or confining of freedom, since it is not capable of any other determination.

We have already spoken before of a development and confinedness of a freedom through which alone the various fundamental forms of consciousness can arise, but had then good reasons to suppose that this sort of development had its determined *terminus a quo* and *ad quem*, and that it formed a circumscribed sphere, and that, therefore, the principle was finite in relation to it. But now we speak of a development through an infinite principle; hence we may expect that freedom must here be thought by us under another determination; and these two different spheres must on no account be taken the one for the other until we shall be able to give their characteristic difference.

These manifestations of the principle absolutely exclude each other, and it is absolutely impossible that if the one occurs, any other one should occur. Hence if a new manifestation is to occur, the previous one must first have been annihilated and cancelled; they can follow only in succession. The annihilation of the one which is, is the condition of the possibility of the being of the other; and hence the former is *first*, and the second one *succeeds*. Thus that which remains always one and the same, proceeds through a series of successive changes, or through a *time*. This series never has an end, for the principle can become a principle infinitely. Thus we arrive at an infinite time. This one-and-the-same remaining has only *one* dimension, for it is itself an infinite succession of reciprocally excluding contents. The contents are not themselves the moments of time, for as parts of the one and same time they are altogether equal, but they make it possible to distinguish something in time. That which bears time, and forms its point of unity is the principle; the contents of the time and the points of disjunction are the manifestations of that principle.

Now what did our problem propose to picture? Evidently merely the principle in its actual state of being a principle, but our problem did not at all propose to picture time. The picture of time came of itself and joined itself of its own accord to that picture of the principle as soon as we tried to

form the latter. Hence we must express it thus: time is a law of that picturing which we are trying to discover, and its peculiar character as such law is this, that it does not confine and enchain us unseen and unconsciously—as the laws of thinking very often do—but that, while it binds us, it also represents itself to us in an image or picture. We must, therefore, furthermore try to explain this consciousness of time which enters our mind of its own accord.

Whenever freedom elevates itself actually and in fact over any limitation wherein it was previously confined, there arises a consciousness as the immediate being of this new-arisen freedom. This is a proposition which we have established above and from which we have drawn many conclusions already. Let us now apply this proposition to the present instance.

Our problem was to construct that principle by means of free imagination. Now, in doing this, imagination has already risen above its state of actually being such a principle; and hence the life of consciousness is, during that constructing, surrendered neither to its lower condition of being a principle, nor to a contemplation of the manifestations of that principle. Now this unsundered condition of life—which has arisen by means of the free act whereby consciousness determined itself to construct the principle—represents itself in a consciousness which, as the immediate expression of an inner condition, must appear as a given (not free) consciousness. This representation, or the immediate contemplation of the pure principle absolutely as such, is what is called time.

Illustration.—Do we by a free act produce time or not? We do not produce it by a conscious freedom of imagination as we produce, for instance, the required picture of the principle; but we do produce the ground of the contemplation of time, which ground is our arising beyond the condition of actually being principle by means of our imagination. At least, this is all the answer we can now give to that question; the final and decisive answer will appear only in the Science of Knowledge.

B.—In the foregoing we have deduced merely the pure form of time, empty of all appearance; and this happened because

our problem of a free thinking led us out of the natural progress of consciousness. But whatever reasons we may have had thus to proceed in the development of our subject, we must now turn back to its natural connection and show how consciousness arrives at an actual time. We put the question thus: is consciousness really compelled—of course, through some sort of a connection, since it can never be absolutely compelled—to place any of its results within time, as it certainly was compelled to place the objects of its external perception in space; or, is it indeed compelled by a peculiar synthesis to think any of its results as inseparable of a determined part of universal time and as filling up this determined part?

To explain: it might very well be possible to say, that consciousness develops itself in time, and cannot develop itself otherwise; i. e. for a supposed observer outside of consciousness, who thinks its unity and watches the changes of its conditions, and yet be also possible that the thus observed consciousness for itself were altogether merged with its whole essence into every point of its condition—which condition would appear to the observer as a time moment. In which case the then observed consciousness would for itself be altogether disjointed and new in every moment of its existence; and each of these its moments would appear to it as a peculiar, in-itself-complete world, utterly unconnected with any other moment. Such a consciousness would have neither time nor time-moments. Now if this is not to be thus, consciousness or the Ego must immediately in every such condition grasp it as the necessary part of a whole; must be compelled to connect immediately with the consciousness of the part the consciousness of the whole; must find it impossible to remain in the part, and impelled to proceed from it to the whole. But this whole, which embraces everything, is knowledge. Hence the Ego must be compelled to grasp or comprehend those other parts of the whole as also knowledge, though a different knowledge; that is, as the different knowledges of the one knowledge, which always remains the same; whereby, indeed, the Ego lapses into the contemplation of time, which we have described above.

But how is the Ego to arrive at such a necessity to proceed

beyond the part? Evidently thus: it must be impossible for the Ego to comprehend the part as existing—the thinking of the part as existing must be impossible and involve a contradiction—unless it connects this existence of the part to that of another part, which, however, cannot coëxist with the first part at the same time; in short, unless the given part is necessarily conditioned through another part. The conception of conditionedness has already been explained, and will be explained with still greater precision as we advance.

Remark, now, that this conception of conditionedness, which is here added, gives a new and more determined character to the whole previously described series of time-moments. For, whereas at first the different results of the principle merely excluded each other, so that if the one was to enter, the other one had to be annihilated—their place in the series being, however, utterly indifferent, and it being quite as well possible that *b* should precede *a* as that *a* should precede *b*—they now not merely exclude, but moreover *condition* each other; thus assigning to each moment its separate place or position in the series. It is no longer, as at first, a general before and after, but a determined before and after. The conditioning must precede the conditioned. Hence if the mind dwells upon this conditionedness of the parts of the time, it is driven to think the condition as the necessarily preceding, and from the thinking of this condition perhaps again to the thinking of its condition as the necessarily preceding, &c. &c.; that is, it may rise from a given *c* to a preceding *b*, and from that to a preceding *a*. Thus there arises the consciousness of an Ego, as that which remains one and the self-same in all the changes of its conditions, and with it the necessary requirement of an actual time in order to unite the contradiction in actuality.

Now, if these changing conditions were merely external perceptions for the individual who experiences them, then that consciousness of an Ego would be simply the consciousness of an Ego as an intelligence, or as a *knowing* Ego, but not of an Ego as a principle; and in this intelligence, or knowing Ego—since in its existence it is dependent upon the givenness of outer objects—having no guarantees of infinity and self-sufficiency, the time arising for it would not be infinite,

but simply indefinite. But if these observed changes of conditions consist of free imagining and thinking, then that one Ego which arises in consciousness is expressly considered as a principle, and its time is an actual, and in truth infinite time.

Now we are here thinking the Ego not as merely a knowing power or intelligence, but as a practical power or principle, and hence we proceed further thus: what does it mean when we say, that the manifold utterances or manifestations of the principle are conditioned through each other, those manifestations—as the mere outflow of the freedom of the principle—having in themselves no independent existence whatever which might enable them to have peculiar determinations as the things of external perception have, and thus whatever we assert of them is in truth asserted of the principle from which they flow? It clearly means this: the principle is conditioned in regard to its utterances, its self-development is confined to a determined sequence of series of those manifestations or utterances, a sequence that here continues infinitely. It can arrive at a certain end, *y*—however clear it may think it and propose it to itself as its end—in actuality only by proceeding in a certain sequence through *a*, *b*, *c*, *d*, &c.

But whence arises this knowledge of the conditionedness of the Ego? Evidently, since it expresses a limitation of the principle in relation to its power in actuality, from the self-contemplation of its power. And thus the above promised definite description of the conception of conditionedness has become possible. That conception is founded upon the immediate self-contemplation of the faculty of the principle in its state of confinedness to an *a priori* determined sequence of moments in its development in actuality.

This conception will, therefore, make it possible with apodictical certainty to draw a conclusion from a given part of time as to what must have preceded that time—although that preceding has not been experienced in actual life—and thus to restore the past with sure accuracy by means of grounds. Thus it will also be possible in the same manner to draw conclusions from the same given time as to what will follow, and thus to make present the future; of course, under the presup-

position that everything will happen properly,—that is, that the principle will use its entire faculty, and limit itself by nothing except the absolute law of its self-development.

I ask you now: is this thus perceived series of moments perfectly ordered, each link having in it its determined position, from which it cannot move, and therefore its firmly determined moment in known time? Doubtless you must answer: Yes. I ask again: at which time in universal time does this whole known time occur? has it also its determined position in that universal time? Doubtless you will have to answer, No; that known time floats in an altogether undetermined position in the infinite time, which is empty at both of its ends.*

C.—*Appendix concerning the power of Recollection.*—We desire to speak of this power in general, and more specially at this place, as it excellently illustrates what we have said about time.

The power of recollection is, first of all, essentially different from the above described power to generate the contents of time absolutely *a priori* either of the past or of the future. For whereas the latter power asserts merely, that a certain content of time was necessary in the past, or will be necessary in the future, regardless as to whether such content has been actually experienced in life, and indeed without any reference to actuality whatever, the power of recollection asserts that a certain state or condition in the past has actually been, and been experienced.

Now, upon what is this power of recollection grounded? I answer: just like that former power, upon a relation of conditionedness; but with this difference, that whereas that former power is conditioned by a relation simply of the absolute possibility of the occurrence, the present power is conditioned by the given actuality of the occurrence. In the present given

* *Note of Translator.*—To the believers in a creation of the world out of nothing, and the dabblers in the metaphysics of physical science who think they can solve the problem of creation—which is no problem at all since the whole matter is an absurdity—I would recommend an energetic study of this latter proposition: that it is utterly of no importance into what part of universal time you place known time; a proposition that Leibnitz, in his controversy with Clark, used effectually not only in regard to time but also to space.

moment I do something within my consciousness; and I observe that I do this by means of a new reflection which rises above the actual doing. Then I ask, under what subjective condition of the occurred development of my faculty could I do so? I find, under this or that condition. Hence this condition must have already been filled by me with some actual deed, whilst it is at the same time represented to be as actual by the immediate causality of imagination. Perhaps this condition is again conditioned in the same factual manner by a necessary previous condition, which is represented to me in the same manner as actual, &c. Thus I am enabled to develop from the one given moment of my life conditions of my past life as having actually occurred; that is, to recollect them. For instance: let the given moment of my life be an attention,—for in the case of the pure and simple external perception, as described above, recollection does not take place at all, since no freedom occurs in it. Now in this attention the particular is reduced to the general, and the species to the genus. As soon as I become conscious of it, the question arises: how did I arrive at my knowledge of this general and this genus? Evidently in some previous representation, which must therefore have been thus or thus, and which is represented to the thereby excited higher attention through the immediate causality of imagination as actual, that is, as having previously occurred.

Or let the present moment be a construction by means of free imagination. This surely needs a material quality, taken from the external sense. But this quality must at some time have been given to me through an external perception. Then I can develop this external perception in the above described manner from this construction.

Or, finally, the present moment contains a free thinking. This occurs in accordance with some law of thinking known to me already, and which, therefore, I must have learned at some previous time. This previous state of my mind, however, I can again develop in my recollection in the above described manner. Hence:

1. The power of recollection is the free power of imagination as a faculty of reproduction, in the manner in which we have described that faculty before.

2. The power of recollection is a power which is altogether free, stands under the control of the will and reason, and is susceptible of further culture by means of practice and rules of art.

3. The law and thread which guides this power of imagination, and by means whereof that power assigns to the reproduced conditions their determined position in time, is—Conditionedness.

4. That power which causes the reproduced condition to appear not as a necessary one—as above, where only thinking was busy—but as an actually experienced condition of life, is the immediate causality-power of imagination, which, joining attention—as to whether the condition has been actually experienced or not—gives to the power of recollection its peculiar character.

5. The power of recollection is not an accidental phenomenon of consciousness which should be left to the science of psychology under the name of memory, but it is a necessary and inseparable component of consciousness, and belongs to such a representation of the one and absolute consciousness as we are establishing in these present Facts of Consciousness, and which must be grounded with the whole of consciousness in the general Science of Knowledge. Without this power or faculty the whole of consciousness would be sundered into separate and utterly disconnected moments, as we have described it above, and would never even get to be a consciousness of the Ego as the permanent substrate in the change of the conditions.

6. We may, therefore, establish the following proposition: in each last condition or state of consciousness the whole previous life of that consciousness is the conditioning; hence it is quite possible to develop the latter, in a *regressus* from each conditioned moment to the conditioning, from the former. That this proposition does not show itself to be true in actual perception in our power of recollection, arises from this: that if we are to recollect anything done by us, as thus done, we must do it from the first with consciousness and considerateness so as to become conscious at the same time of the law of our procedure. Thus all that part of our lifetime which, belonging to our earlier years, made itself out of

itself by our own immediate causality of imagination, as well as that which in mature life made itself through that same causality (through genius), does not come within the sphere of possible recollection, although in the latter case it may be well possible to recollect external circumstances. We may, therefore, venture upon the following general remarks respecting the power of recollection :

a. The condition of all recollecting is, that we should become clearly conscious of our freedom at that very moment which we wish to recollect, since it is only to this procedure that the thinking according to the law of conditionedness can connect; in short, that at that very moment we should ask ourselves : how do I come to do this, and how is it possible for me to do it ?

b. The clearer, freer, and more under its own control, consciousness is in general, the more ready and powerful will be its power of recollection. The true principle of a science of mnemonics is the proposition : *sapere aude*.

c. In whatever branch of knowledge consciousness is most practised and accomplished, the power of recollection is also strongest. The practised philosopher, for instance, will find it very easy to restore the links of a series of thoughts, and to recollect the connections and the transitions of his argument; whereas he may have a very weak power of recollection for dates and names, since the worlds of dates and names are to him without any connection of thinking. In order to be able to recollect them, he would have to discover another source of connection.

d. Finally, the strengthening of our power of recollection requires a diligent practice of that power, by which practice alone we can acquire the art of developing the series of links quickly and without hesitation.

This, then, is the true power of recollection ; a power which each one possesses in the same manner, and which each one can raise to a ready art in his mind by his own freedom. A particular favoritism of nature, talent, or genius, or whatever it may be called, has no influence upon it. What, then, do people mean when they speak of good and bad memories, &c., and make psychological investigations into the nature of

this very same power? Can we make no use at all of their teachings? Let us see.

We will say nothing about their investigations as to the retention of images in our senses, which merely exhibit their coarse materialism. It is not the images themselves that are retained, but we retain the imaging, the development of our power of imaging, and we cannot help but retain that, since it has become a component of our own self. This power or faculty we analyze, and it is on the occasion of this analysis that the images are again reconstructed. Hence it is in this development of his faculty that man carries along his whole lived time.

But then it has excited their attention that we often—when we indolently leave our mind to itself—hit upon the notion of something that is past. This, however, tends only to show what manner of men they were to whom this fact has appeared so remarkable. A free and able man has no room for notions in his consciousness, but gives unto his consciousness direction and contents with perfect freedom so long as he wakes and has power. Nevertheless we ought to explain the nature of these notions and their relation to memory. The explanation is this: such a notion is the immediate causality of the power of imagination—which cannot be inactive even though its free master rests—all through itself, and is here, more specially, the reproduction of an actually experienced condition of life; but with this distinction from free recollection, that in the present instance the immediate causality of imagination is not in a reciprocity with free and considerate attention, but proceeds its own way by itself. In short, it is the very same power of imagination which also produces dreams. Such a psychological memory is acquired only when we dream with open eyes. There is only one sort of this immediate causality of imagination which deserves a more honorable mention, namely, the reproduction through the eye, because it fills a vacancy left open by the free power of recollecting according to the law of conditionedness. For we more readily remember names, dates,—nay, whole speeches—when we have written them down, or read them in print, since then the immediate causality of imagination comes to the assis-

tance of free attention with an image of the written or printed character of the names, dates, &c. I should advise every one diligently to cultivate this sort of imagination for the sake of recollecting, wherever the mere connection of conditions is not sufficient.

THE LOGICAL QUESTION IN HEGEL'S SYSTEM.

Translated from the German of TRENDELENBURG by THOS. DAVIDSON.

When in logic a judgment is passed on Hegel's system as a system, there gathers round it, as a centre, what is to-day a great philosophic interest. The undersigned therefore, although himself a party in the case, will endeavor to give a short notice of the position of matters in the *logical question* since wishing, by that means, to bespeak for the pending investigation a greater interest than it has heretofore found.

There never yet was a system in which method and result, the principle of form, and the origin of the thing, were so closely united as in Hegel's. His "Dialectic of Pure Thought" attempts to create and to form the whole content. For with him the self-movement of self-related thought is, at the same time, the self-creation of Being. While Thought presses on from its unity to antitheses, and reconciles these antitheses in a new idea, thence going through, again and again, the same procedure, in these stages of the idea it is held to determine itself into so many grades of Being.

Any one who has studied Hegel, knows that this dialectic method with thesis, antithesis and solution—the dialectic method, with the metamorphosis of its negativity—imparts the common stamp to all his writings, and forms the imposing architecture of his entire system. It is the bond which binds all the thoughts; it is the motive which, as in a Gothic building, repeats in the parts the type of the whole, and in the whole the type of the parts. Its consistent carrying out of it into all the corners of the universe, the indefatigable execution, here in yielding, there in recalcitrant material, shows an energy of formation which hardly has its equal. With Hegel the dialectic method is like the law of a crystallization, in which all his ideas uniformly crystallize, and it shows a

returning symmetry of the thought become solid, and the original movement of the fluid formation. The surprising unity has attracted large numbers of minds, and fettered them; and that which seems stiff and cold in this system to the person entering, many are willing to put up with, for the purpose of having a share in this great edifice, and particularly of enjoying the advantages which the great out-buildings afford. Whoever has once seen with his mind's eye the greatness and labor of this building, which has been erected from one thought, will not be ready to blame, until the insight, which he has obtained, forces him to call the attention of the crowd that is pouring in, to the unstable foundation.

When Truth is going to burst a barrier, it is vain to try to dam it up with false admiration.

We know it well. Whoever contends against Hegel's system, contends against the closest phalanx of thoughts; and we would rather place our own opinions and thoughts in the same lines and draw strength from them, than waste our strength on them, *were we able*. Whoever, then, consciously undertakes the contest, is assuredly moved by something different from the petty reasons which opponents so readily ascribe to each other when they do not wish to risk a fair argument. We ask for ourselves nothing else but the condition of all science,—*free investigation of the subject*, and that thing as the authority which the cognitive spirit alone recognizes.

The principal question in the system is the *logical* question, since the dialectic method of pure thinking is to be the absolute one. Hegel himself declares it to be the *only true* method of philosophic science since it is "the consciousness of the form of the inner self-movement of the content" (*Logic*, 1833, I. 41, 42). "The dialectic constitutes," says Hegel in another place (*Encyclopædia*, 4th ed. § 81), "the moving soul of scientific progress, and is the principle by means of which alone, immanent connection and necessity come into the content of science." "As the dialectic in general," he says in a note, "is actually the principle of all movement, of all life, and of all action, so also is the dialectic the soul of *all true* scientific cognition." "The content of all reason is *nothing else* but the determination which comprehensive thought de-

velops *from itself*" (Encyclopædia, § 468, Cf. § 574). "In unity to know the antithesis, and in antithesis to know the unity, is the *absolute knowledge*; and science is this—to know this unity in its entire development *through itself*." Thus closes the "History of Philosophy," which sees in Hegel's system the completed and comprehensive truth of all former ones (Lectures on the History of Philosophy, III. p. 683).

On the authority of such and similar passages the dialectic method of pure thought is *exclusively* the only truly scientific method, and also the creator of the form, since it produces the immanent and necessary connection as the creator of the content, because thought, which through it is comprehensive thought, has developed *from itself* the determination of the contents.

And the philosophic act says more than such expressions say. Hegel appeals to the fact (Logic, I. p. 41), that he set up an example of this method first in the Phenomenology of Spirit, and later in the case of other concrete objects and parts of philosophy. The dialectic of pure thought shows its omnipotence first in Logic, because here it breathes in the "pure æther" of spirit and weaves the ideas from unresisting matter, or, more properly, without matter. The Logic was the scientific foundation of the dialectic method, and all the right of application flowed from the plenitude of the Logic. If the Logic runs out into the idea, which is the one totality, complete in itself, nature-philosophy begins where the idea concludes to throw itself into otherness, and as nature, to free itself from itself. The process of the dialectic begins here anew, and it goes from the most external element of space and time, and more and more into itself, and continually produces richer and deeper thoughts, until the idea grasps itself in the self-conscious human spirit. Therefore one and the same dialectic is made to conquer nature and spirit, the soul and the history of the world. But nowhere in its course does the dialectic become freer, or return more to its proper province, than in the philosophy of religion, which stands in complete dependence upon the Logic. A theory like the wide-spread one, that the thinking human mind is what makes the hitherto unconscious god conscious of himself, could have arisen only under the influence of a logical

view, according to which comprehensive thought conceives the content from itself, receives no rational ready-made content from without, but produces the determinations of Being from itself; it could have arisen only under the influence of a logical influence, at whose foundation lies the entire pre-supposition, that human thought, when man thinks *purely*, is as creative as divine thought, and in so far is the divine thought itself. Yet we do not indeed understand what the conception of God at all means and what God signifies to man, since it is only man that makes him conscious of himself, since God, though not like an idol, the work of hands, before which the same hands that made it are folded in adoration, is, after all, a product of thought, which can hardly be adored and worshipped by the same thought which woke it from its sleep, and enabled it to pass from blind inertness to consciousness.

Yet Hegel's Logic maintained itself and appeared firmly based in itself. For all time it was thought it had proved the dialectic method to be the only philosophical one which through its own activity would refute all objections. In the same degree as formal logic failed to solve the problem of comprehending cognition, an indirect proof was seen for the truth of the speculative dialectic. Persons were astonished at the newly discovered creative power of thought. In Hegel's Logic the principle seemed to verify itself in vast regions of human knowledge. Its very difficulty became a voucher of a depth which was not accessible to all. Many parts of the sciences received a surprising light, and the saying was applied to Hegel's Logic which Socrates is said to have used of Heraclitus' dark, but profound work: "What I have understood in the book is excellent; so, therefore, I think is also that which I have not understood; but it requires a Delian swimmer not to sink in it." The bolder thought they possessed this mental swimming-faculty; the more timid mistrusted rather themselves than the much-promising subject. Thus gradually the authority of Hegel's Logic grew, and persons often expressed themselves to the effect that only the weak-minded and the slothful-minded, who feared and shunned the dialectic labor of thought, doubted Hegel's philosophy. It was considered the initiation into the secrets of the thinking

world of spirit. The dialectic procedure was the key to God and the world—the universal method; it was the magic wand of truth, with which the thinking mind conjured up the hidden spirits of things. Some managed it with skilful hands and with the fantastic extasy of a mysterious magician; others managed it more clumsily, but with the entire fundamental science of the new art.

It became a dogma of the later philosophy, that the dialectic procedure was the *absolute* method; and to this great discovery, the greatest which seemed ever to have been made in the region of philosophy, persons also clung, whom the result did not satisfy.

Still the objections continued. Results turned themselves against the new dialectic principle, whereas every new idea arising in science must carry itself through and confirm itself by results. If the dialectic method were the universal method, it must extend to the individual sciences and scientific methods. Hegel himself had challenged applications of it, in order to raise the rational content to the only rational form, and to organize science in its immanent connection. With great promise such attempts were undertaken in the field of universal history, of grammar, of the history of philosophy, &c. But the more concrete the matter, and the more special the case, the more dangerous became the logical experiment. For while the general allows itself to be drawn into the indefinite, and the indefinite suits itself more easily to the formative power of the foreign spirit, the particular exercises a stricter control, in proportion to the closeness of observation possible in it. The idea, which formerly strode away haughtily over the particular, was now forced to come to an agreement with the particular. None of these attempts met with general acceptance; rather were they all repelled by the sciences as strange intruders. Such abortive applications rendered the exclusive method doubtful.

Another comprehensive fact contributed to the same result. Two important men worked, in a series of writings and periodicals, *in favor* of Hegel's dialectic method, *against* Hegel's result. "The truth in form and the falsehood in matter of the philosophy of Hegel," wrote Weisse in the introduction to his *Metaphysics*, "the sterling excellence of its methods, and

the cheerless baldness of its results, force themselves with equal evidence upon my mind." If originally the essence and value of the dialectic method were supposed to lie in the fact, that in the determination of its self-acting form it produced the truth of the content, if formerly the artistic act of speculation was valued, which penetrated both the form and the content, * * * if hitherto the dialectic method had been represented as the eternal birth of essence into form, and form into essence, the now-exposed disagreement seemed to testify against the principle. It appeared incredible that the inventor himself should have misunderstood his own invention; it seemed incredible that the inventor should play his own instrument so falsely. All who knew Hegel's energy, doubted rather of the invention than of the inventor, if they could not maintain both. People became doubtful.

Others, in a different, manner, became unfaithful to the original thought. The dialectic had moved essentially in a trinity, and had seen in this very closed trinity the security for its self-completing totality. By an application to the history of Philosophy, the dialectic seemed to surrender this trinity, and only to maintain the thought that, in the immanent movement of negativity, it led over from the one-sidedness and the limitations of the system to the positive content of another. While therein only necessity was sought, the dialectic sank into the indefinite, and, with the triadic law, the survey of the necessary *whole* was lost. The strong band of the dialectic was now become more lax. After such an attack on the dialectic method, it was asked how far it had remained unchanged.

In later times, the dialectic was here and there more closely attacked. Dr. D. F. Strauss essentially takes the ground of Hegel's philosophy, and we owe to his controversial writings a deeper insight into the connection of Hegel's religious philosophy with the whole dialectic. In several places he appeals to Hegel's "profound categories," which are the result of the dialectic process. But he himself does not darken his clear investigation by allowing his subject to be interfered with by the speculative dialectic of pure thought. In his *Glaubenslehre*, his dialectic goes hand in hand with the antitheses which, in the lapse of centuries, science has produced,

and his great skill consists in perceiving nicely these antitheses, in representing them clearly, and in bringing them to an energetic combat. Where his own philosophic view appears, one can see that it was possible only on the basis of Hegel's dialectic method; everywhere it shows its origin and workshop. But the art of this workshop remains in the work itself, as the deep hidden power, which is everywhere presupposed as self-evident, but is nowhere brought forward for treatment; it is, as it were, *before* the work, but not *in* the work. Strauss did not apply the dialectic method in Hegel's speculative sense, as it was in the above-mentioned abortive trial, but rather put it out of use. The dialectic of his work is a dialectic which lets itself down from the construction of the speculative thought into the arena of the Given—the dialectic of parties, but not the dialectic of pure conception. Hegel's logic here does not supply the method; it is itself a moment, and one of the last moments in the process of the object. It has produced, along with it, its cancellation. From it arises the whole world-view, before whose apparent clearness the solid-seeming fogs of creed-doctrines are scattered, without even reflecting a rainbow in their flight. The annihilating arguments are partly taken from Hegel's logic, and what yet remains standing in the downfall, stands on their foundation. Therefore the recognition of the critical results depends essentially on the recognition of Hegel's logic. Yet the dialectic which is employed in the work is dialectic only in the broader sense; a freer dialectic, the presentation of an historical process, in which the dogmas crush and wear themselves away against the progress of science and of philosophy, but not that speculative dialectic, by means of which Hegel rather desired to preserve and to animate it. It is a dialectic For and Against, which, with every cancelled one-sidedness, cancels also a piece of the matter, a dialectic which, reared and strengthened in the absolute method, rather turns itself against it than works in its spirit.

Persons went still farther. While with Strauss, reverence for the great system, whose soul the dialectic method is, peers forth in the background of the thoughts, to others who wished to perform great deeds in Hegel's name, the up-hill dialectic

seemed to be an idle piece of profundity, or a troublesome fetter to free ideas. The work of the categories was put away. It was praised wherever any one sought a scientific nimbus; it was thrown away wherever it threatened to punish arbitrariness with its laws. Here and there, for the sake of philosophical politeness, a few bows were made before the absolute method as the dialectic of the speculative world-spirit, or because people liked to have a foreign, logical mystery behind their backs, in order not to appear shallow themselves. At times this feeling was uttered openly. People reprehended, for instance, as a fault in such a man as the late Gans, what had until then been considered in its way as a philosophic recommendation: they blamed his old-Hegelian self-sufficiency, in that he liked to allow the whole weight of the logical system to be felt. The system, it was said, proves itself only in its connection, and the idea is everywhere merely this connection. Persons spoke very wittily, aiming at the Logic, of the grand Olympic height, of the extramundane position of absolute rotundity (*Deutsche Jahrbücher*, June, 1841). But with such irony directed at the connection of the idea, irony was directed at the whole of Hegel's system, which, after all, is nothing more than the dialectic explication of the connection immanent in the idea.

Thus, after brave wanderings, Hegel's Dialectic Method of Pure Thought and his whole work suffered shipwreck among his own followers.

If one had meant to judge the value of the principle, the essence of the dialectic method, by the results, there was one other thing astonishing. Contrary characters drew from the fountain of pure thought, and they drew from it contraries. Men full of Christian fervor nourished their enthusiasm for the positive from the comprehensive dialectic; others, full of daring energy, drank from the same spring their enthusiasm for the world-storm of negation. "Doth a fountain send forth at the same place sweet water and bitter?" might fairly have been asked in this case. In theology, the dogmas were constructed and demolished by means of the same dialectic. The silent observer concluded not wrongly, that only from an inner confusion of principle could such contradictory facts possibly flow.

In this manner the dialectic method, which had come forth bold and pungent, had already, in its phenomena, dulled and blunted itself.

But Hegel's logic remained the firm seat of the dialectic method. Should then a philosophic thought, born for eternity, be judged by the misfortunes of a decade? If it is confident still to conquer such accidents, we must follow it farther in its essence.

In Hegel's school there was activity in the most diverse regions of philosophy, to perfect and form it, or to complete and rectify it. But until recently the logic went empty-handed, if we except the labors of Weisse and Fichte, which were set aside as rubbish. Hegel's logic was considered indestructible and beyond improvement; and where a defeat had once been suffered in other regions, a retreat was made to this impregnable fortress. Only in the last few years has there been perceived within the school a movement which threatens to shake the main support of the system, the logic. Two works, which back Hegel's logic, show plainly that even here an inner crisis is impending.

The work of the undersigned, published in the year 1840, entitled "*Logical Investigations*," followed the dialectic method throughout its whole course, and judged it not according to any external result or moral consequences, but according to its principles and its entire carrying out, and according to the scientific results of the subject. The greatness of the *attempt* was granted, if the pure idea were, as in the divine intellect, to produce itself creatively and only from itself, if pure thought in one act were to create the form and the content of the world. It was granted, that in logic the problem could not be put higher. But, at the same time, a demand was made for the means which should put such a giant-plan into operation, and the actual accomplishment was measured by the attempt. Then, in an investigation, which advanced from the general to the particular, the result was obtained that the dialectic method of pure thought was in itself *impossible*.

The points there advanced are essentially the following:

The logic tries to presuppose nothing but pure thought, which possesses no external intuition, no image, but simply

itself; but, by creating from itself, produces the conceptions and the determinations of being. It was investigated, whether in fact Hegel's logic remains true to this promise, presupposes nothing, and produces only from pure thought. Then it was plainly apparent, that, even in the first step, the principle of all external phenomena was presupposed, the concept of *local* motion. The aid of this form-giving intuition was indeed kept hidden, but it aided mightily; and if it was once admitted, there continually arose from it new sensuous vehicles, without which, pure thought would not move from its place. Where pure thought haughtily claims to produce from itself, there this openly despised, yet secretly received principle—there the silently accompanying action of motion reflecting the images in the space of the imagination lends it the logical forms which it could never have produced from itself. By means of this foreign but hidden service, the productions of pure thought receive a sensuous freshness, without which they would have been less than fleeting shadows. He who is strict enough to hold the presuppositionless dialectic of pure thought to its word, and really attempts to proceed without any presupposition and purely, soon sees that it remains immovable and that its productions are still-born. But since it is impossible for the human mind to accomplish absolutely the required abstraction, and to depart from the first condition of its activity, the condition of the designing fantasy, since it is always present where one has supposed it excluded, there may arise, through its silent coöperation, the *appearance* as if pure thought produced from itself *pure conceptions of being*. But pure thought lives apart from imaginative, impure thought. If it does not receive from the latter its daily bread, it dies irretrievably. The thus designated connection between so-called pure thought and the fundamental activity of all intuition was proved first of all in the beginning of the logic, in the Becoming, and objection was taken to the local motion, on the threshold, as it entered; but it was further shown, how it acts a part in the logic without right. It was most apparent where pure thought, according to its own assertion, produced dialectically from itself continuous and discrete, extensive and intensive magnitude, attraction and repulsion, the pressure and impulse of mechan-

ics, and the process of life, without space and time and in the form of eternity. — In this and other conceptions, the impure element of the picture, the sensuously formed activity of the secretly intruded movement, was caught in the act. One could not hide behind the statement that pure thought always was declared to be a movement; indeed it had been denominated a movement indefinitely enough, as likewise all activity falls under this comprehensive metaphor: it could not be conceded that the designing movement of fantasy was meant, which is the opposite of the local one; for thereby the logic of pure thought would have been destroyed from its very beginning, and the elements of nature-philosophy, space, and time, would have been dragged into logic. With such a concession, the absolute method would have perished in its beginning. A movement in the lump was acknowledged; but when this was so far brought to a stand-still that its nature was discovered, it showed itself to be the opposite of what it had given itself out to be: it was not the movement of pure thought, but the movement of intuition, a geometrical movement which designs forms in the space of the imagination. This local motion appeared as the presupposition of the presuppositionless logic. It was hinted that the consequences of this secret presupposition were immeasurable. The entire wealth of the formative intuition, the clearness of an accompanying picture now came silently, but illegally, into the possession of pure thought. It now had at its disposal an image, which it used whenever it stood in need of it, and, according to its principle, threw away whenever it retired into its haughty abstractions. Had ever any method behaved more uncritically than pure thinking?

Furthermore, the *logical* means were investigated which the dialectic applies in order to get from pure being to the idea, from presuppositionless voidness to the fulness of the intellectual world, and to get there in such a manner as to produce from itself the interjacent forms of the conception—as it were the stages of pure thought. As is well known, *negation* and *identity* play a principal part in this. They are purely logical words, and therefore they give to themselves the appearance of a *logical* action, and to everything that originates from them the stamp of a *logical production*.

BION'S THRENODY ON ADONIS.

By ANNA C. BRACKETT.

It is undoubtedly true that Milton in his "Lycidas," as well as Shelley in his "Adonais," followed, though perhaps unconsciously, footsteps long before marked out by the ancient poets Bion and Moschus. Of the two modern poems, the *Adonais* is by far the more artificial. The art is too plainly seen throughout the whole, while it seems at first that "Lycidas moves in unrestrained grief through all the natural transitions of sorrow"; and it is only when one has made a study of it that he accounts for its effect on discovering how finished a work of art it is.

This perfection of art, which seems at first view to be one with perfect freedom and abandonment, is shown even more than in "Lycidas" in one of the poems above referred to, the Threnody on the death of Adonis, by Bion, the ancient poet of Smyrna. After one has made it his own, he will no longer wonder at the poem of Moschus, in which he laments the death of Bion, asking—"Who shall sing to thy pipe, oh thrice-regretted? Who is so bold as to apply his lips to thy reeds? for even yet they breathe of thy lips and thy breath; and Echo, among the reeds, feeds upon thy songs." All laments that have since been said or sung seem to be only the voice of Echo repeating over and over again Bion's Threnody on Adonis.

It consists almost entirely of a series of pictures following each other in a natural order, and falls into three grand divisions, the first two comprising each three parts; the third, but two. Each of these parts is led by a refrain which gives to it its tone. This is also true of the poem of Moschus on the death of Bion, but his refrain is monotonous: "Begin, Sicilian muses, begin the lament"; while in Bion's Threnody the refrains vary, thus adding the charm of variety to the sadness of the still-recurring simple lament. By this device the song gathers strength as it proceeds, and returns into itself in the third division in repeating the refrain of the first part of the first division.

These are the refrains:

(1) "I wail for Adonis. Beauteous Adonis is dead!"—

a new element in

(2) "I wail for Adonis. The Loves wail responsive."

(3) " " " " " " " "

is precisely the same as the second; but there is a new strain for

(4) "Alas for Cypris! The Loves wail responsive";

then a weaving together of the old and the new in

(5) "Alas for Cypris! Beauteous Adonis is dead!"

(6) " " " " " " " "

is like the preceding. But we return to the simple sorrow in

(7) "I wail for Adonis! Beauteous Adonis is dead!"

and finally find in

(8) "Alas, alas for Cytherea! The Loves wail responsive."

Neither Milton nor Shelley make use of refrains to the same extent, though we find some irregularly in the first stanzas of the *Adonais*. Milton chooses *Moschus* for his model, at the beginning using an invocation; while Shelley, closely following Bion, pauses for none, but begins at once with the words,

"I weep for *Adonais*—he is dead!"

though Shelley does not use the pathetic iteration whose force Milton saw and appropriated in

"*Lycidas* is dead—dead ere his prime."

Bion says,

"I wail for Adonis. Beauteous Adonis is dead. Dead is beauteous Adonis."

This first part may be said to contain only the idea—"Dead!" It begins and ends with it, and that impression is the only one left on the mind.

The second part, with its almost identical refrain, is a description of Adonis as he lies on the mountain: the close description of sorrow, with vivid contrasts of color painting—the reclining posture—the slow, painful breathing—the sluggish flowing of the dark blood—the glazing eyes—the paling lips—the lips which he does not know that Cytherea kisses in anguish.

By this we pass naturally to the third part, where we have, with touches equally fine and careful, the companion picture of Aphrodite—with unbraided hair, with naked, thorn-torn feet, wandering despairing through long valleys, and up and down the oaken glades, calling wildly on her Assyrian lover. The first of the two pictures is all stillness; the second, all motion: the two sides of death—the silence of the dead, the wail of the mourner. Not even Shakspeare could plan two scenes more sharply in contrast. Moreover the two are brought together in the last; for though she calls, he answers not—only still the blood wells up from the wound and stains his white breast. By this last description we are reminded of the very beginning of the poem, "*Beauteous Adonis is dead*"; and so the first division ends as it began.

In the fourth refrain the mourning turns towards Aphrodite herself, and naturally enough after the description given of her: for she lost her beauty when Adonis died. Beauty was but another name for Venus; and when the essence of her life was taken away in the loved one, her beauty too must fade. In the fourth part, following this refrain, all nature is made to sorrow with Cytherea for Adonis and for her. The mountains and the oaks lament; the springs weep—the rivers also; the blossoms flush from grief, as she goes by, in restless motion—as she goes on along wooded passes, through lofty cities, and always with the same bitter cry.

The fifth refrain follows here, the refrain of the fifth part: "Alas for Venus! *beauteous Adonis is dead!*" In this, the two—the dead and the mourner—no longer are held apart in the imagination as two pictures, but are painted together in an outburst of longing love, of despair, and of fierce jealousy—jealousy and hatred of Persephone, of whom she cries in her anguish: "Oh, Persephone, thou art far more powerful than I, for the whole of what is beautiful falls to thy lot!" Sorrow for the loss of Adonis is made more bitter to the immortal goddess by the thought that she must yield him to the command of Persephone. But jealousy vanishes again in love, and the despair which breaks out in the frenzied demand which she makes of the unanswering form in her arms: "Nay, rash one! why didst thou hunt? *Beauteous*

as thou wert, wast thou mad enough to contend with wild beasts?"

This fifth part is the highest point of the poem, and is only softened by the sixth, which, introduced by the same refrain, as if to show that it belongs to it, describes how the storm of grief outweeps itself in showers of tears, which, falling on the ground, are changed into anemones, while the drops of blood, mingling with them, become red roses round her feet. This ends the second chief division of the poem.

We come back in the seventh part to precisely the same refrain with which we started—"I wail for Adonis. Beauteous Adonis is dead!"—and we have in it the picture of the body adorned with all the care that sorrow can bestow. No more he lies, as in the first picture, as he fell, disfigured by his wound, but, folded in purple garments, upon a bed of leaves; and flowers are flung over him, though they all wither as they fall; and even the perfumes and oils which are brought, refuse to yield their delicate odors, and are thrown to one side. All lovely and fragrant things are useless now. Around the quiet, graceful figure the Loves are busy; they trample on his arrows and his bow; they break his well-filled quiver; they loose his sandal, and bring pure water in golden ewers to bathe his wounded thigh; while one, sitting behind him, fans him with her waving wings. This is stillness again, but not the stillness of the first part. It is motion, but not the aimless motion of despair of the second.

The eighth part is led by the refrain, "The Loves join to mourn for Cytherea herself," and the mourning becomes universal again as in the fourth part, but on a higher plane: now it is not the mountains, the oaks, the springs, the rivers, the flowers, that mourn, but the god Hymen, the Graces, and the Muses. But in vain they call him, for, even would he return, Persephone would not release him. Here modern poetry would have again a transition through hope to something higher, to a loftier consolation than that of decorating the remains; and such a transition Milton and Shelley give us in "Lycidas," in "Adonais," but such, Greek art had not to give. There is nothing to be said but the doubtful words, "Cease, Cytherea, thy laments; refrain this day from thy

dirges. Thou must wail again and weep again another year." And so the poem ends.

I briefly sum it up thus:—The first part, forming an introduction, abruptly states the cause of sorrow, and summons Venus to mourning. The second and third parts are two pictures, the one pervaded with stillness and silence, the other with restless motion. Here ends the first division, and a new refrain marks the beginning of the second division. The first part of this, the fourth of the poem, may indeed be said to hold a middle position between the first and second divisions. The refrain is that of the second, but it completes the picture in the third part of the first by adding to the restless mourning of Cypris the lament of universal nature. The fifth part, the second of the second division, is the climax of the poem, containing the picture of the storm of grief at its height. This is broken in the last part of the second division, the sixth of the poem, by a shower of tears; and the story of the anemones and roses which spring up as they fall, forms the transition to the seventh part, the first of the last division.

In this seventh part the refrain returns to the simplicity and suddenness of the first, and it forms another picture, the paying of the last rites to the body of the departed, the only consolation which is left.

The eighth part adds no picture, but makes the lament more general and hopeless, and ends in sadness.

I have ventured on a metrical version, which I give. It was a bold venture, and yet an enforced one; for the ancient poem seemed to me, in each of its many translations, still longing to break its bonds, and pleading for deliverance.

I selected the Spenserian stanza, because it seems more complete in itself than any other; and the original plan was to write each part into one stanza, having for its first line the refrain belonging to that part. But the fifth could not be so compressed, and demanded three stanzas—the fifth, sixth, and seventh—making the eighth stanza correspond to the sixth part. The ninth and tenth stanzas in like manner were required for the seventh part. The eleventh stanza, for the eighth part, completes the poem.

I have used the name Adonais, instead of the proper form, simply on account of its smoothness, and its greater adaptability to the demands of the chosen measure.

THRENODY.

I weep for Adonais—he is dead !
Dead Adonais lies, and mourning all,
The Loves wail round his fair, low-lying head.
Oh, Cypris, sleep no more ! Let from thee fall
Thy purple vestments—hear'st thou not the call ?
Let fall thy purple vestments ! Lay them by !
Ah, smite thy bosom, and in sable pall
Send shivering through the air thy bitter cry
For Adonais dead, while all the Loves reply.

II.

I weep for Adonais—weep the Loves.
Low on the mountains beauteous lies he there,
And languid through his lips the faint breath moves,
And black the blood creeps o'er his smooth thigh, where
The boar's white tooth the whiter flesh must tear.
Glazed grow his eyes beneath the eye-lids wide ;
Fades from his lips the rose, and dies —— Despair !
The clinging kiss of Cypris at his side,
Alas, he knew not that she kissed him as he died !

III.

I wail—responsive wail the Loves with me.
Ah, cruel, cruel is that wound of thine,
But Cypris' heart-wound aches more bitterly.
The Oreads weep ; thy faithful hounds low whine ;
But Cytherea's unbound tresses fine
Float on the wind ; where thorns her white feet wound,
Along the oaken glades drops blood divine.
She calls her lover ; he, all crimsoned round
His fair white breast with blood, hears not the piteous sound.

IV.

Alas for Cytherea ! wail the Loves.
With the beloved dies her beauty too.
O fair was she, the goddess borne of doves,

While Adonais lived ; but now, so true
 Her love, no time her beauty can renew.
 Deep-voiced the mountains mourn ; the oaks reply ;
 And springs and rivers murmur sorrow through
 The passes where she goes, the cities high ;
 And blossoms flush with grief as she goes desolate by.

V.

Alas for Cytherea ! he hath died—
 The beauteous Adonais, he is dead !
 And Echo sadly back "*is dead*" replied.
 Alas for Cypris ! Stooping low her head,
 And opening wide her arms, she piteous said,
 "O stay a little, Adonais mine !
 Of all the kisses ours since we were wed,
 But one last kiss O give me now, and twine
 Thine arms close, till I drink the latest breath of thine !

VI.

"So will I keep the kiss thou givest me
 E'en as it were thyself, thou only best !
 Since thou, O Adonais, far dost flee—
 O stay a little !—leave a little rest !—
 And thou *wilt* leave me, and wilt be the guest
 Of proud Persephone, more strong than I ?
 All beautiful obeys her dread behest—
 And I a goddess am, and can *not* die !
 O thrice-beloved, listen !—mak'st thou no reply

VII.

"Then dies to idle air my longing wild
 As dies a dream along the paths of night ;
 And Cytherea widowed is, exiled
 From love itself ; and now—an idle sight—
 The Loves sit in my halls, and all delight
 My charmed girdle wove, is all undone !
 Why would'st thou, rash one, seek the maddening fight ?
 Why, beauteous, would'st thou not the combat shun ?"—
 Thus Cytherea—and the Loves weep, all as one.

VIII.

Alas for Cytherea !—he is dead !
 Her hopeless sorrow breaks in tears, that rain

Down over all the fair, beloved head,—
Like summer showers, o'er wind-down-beaten grain ;
They flow as fast as flows the crimson stain
From out the wound, deep in the stiffening thigh ;
And lo ! in roses red the blood blooms fair,
And where the tears divine have fallen close by,
Spring up anemones, and stir all tremblingly.

IX.

I weep for Adonais—he is dead !
No more, O Cypris, weep thy wooer here !
Behold a bed of leaves ! Lay down his head
As if he slept—as still, as fair, as dear.
In softest garments let his limbs appear,
As when on golden couch his sweetest sleep
He slept the livelong night, thy heart anear ;
O beautiful in death though sad he keep,
No more to wake when Morning o'er the hills doth creep.

X.

And over him the freshest flowers fling —
Ay me ! all flowers are withered quite away
And drop their petals wan ! yet, perfumes bring
And sprinkle round, and sweetest balsams lay ;—
Nay, perish perfumes since thine shall not stay !
In purple mantle lies he, and around,
The weeping Loves his weapons disarray,
His sandals loose, with water bathe his wound,
And fan him with soft wings that wave without a sound.

XI.

The loves for Cytherea raise the wail.
Hymen from quenched torch no light can shake.
His shredded wreath lies withered all and pale ;
His joyous song, alas, harsh discords break !
And saddest wail of all, the Graces wake :
“ The beauteous Adonais ! He is dead ! ”
And sigh the Muses, “ Stay but for our sake ! ”
Yet would he come, Persephone is dread ;—
Cease, Cypris ! Sad the days repeat their fateful tread !

HEGEL'S PHILOSOPHY OF ART.

*Translated from the second volume of HEGEL'S *ÆSTHETICS*, by Miss S. A. LONGWELL.*

CHIVALRY.

The principle of infinite subjectivity has first for the content of faith and art the Absolute itself; the divine spirit, as it is mediated with human consciousness, reconciles itself with it, and through this reconciliation first truly exists. This romantic mysticism, while it restricts itself to holiness in the absolute, remains an abstract fervor, because it stands over against and repels from itself the worldly, instead of penetrating and receiving it affirmatively. Faith is in this abstraction severed from life, from the concrete reality of human existence, withdrawn from the positive relations of men to each other; for they only in faith, and in consequence of faith, recognize their identity in a third, in the spirit of a common faith. But this third is a clear fountain, in which their image is mirrored; so that man does not immediately observe man, does not enter into a direct relation with others, need not experience the unity of love, of confidence, of dependence, of aims and undertakings, in concrete living activity.

That which hope and aspiration create in the soul, man finds, in his abstract religious fervor, as existing only in the kingdom of God, in the communion of the church, and puts aside this identity in a third, yet not out of his own consciousness, in order to have that which he is according to his own concrete personality, even in the knowing and willing of others, immediately before himself. Therefore the accumulated religious content assumes indeed the form of reality, but it is only in the internality of religious conception, which the living expanding being feeds upon, and which is far from satisfying its own life, even when fulfilled and developed into reality, in this world, nor does it regard it as the highest demand in life itself. Now first the heart, perfected in its simple blessedness, turns from the heavenly kingdom, its substantial sphere, to look in upon itself, and to arrive at the actual, the subject as subject pertaining to the

content. Consequently the early religious fervor now becomes worldly. Christ said, it is true, "You must forsake father and mother, and follow me"; also, "The brother will hate the brother"; "They will crucify and persecute you," etc. But when the kingdom of God has won a place in the world, and is efficacious to interpenetrate worldly aims and interests, and thereby to transfigure them; when father, mother and brother are likewise in perfect union, — then the world begins also, on its side, to demand and make good its right and validity. When this right is established, even the negative possession of the most exclusive religious nature disappears; in comparison with the human as such, the spirit enlarges in its presence, investigates and expands its actually worldly heart.

The foundation-principle itself is not changed; it only turns the infinite subjectivity to another sphere of the content. We may denote the transition by stating that the subjective individuality becomes now independent of its mediation with God, free for itself. For just in that mediation with God in which man renounced his mere finite narrowness and naturalness, the subjectivity passed through the negative period, and now appears affirmative and positive, with the task before it as subject (although at first formal) of attaining infinity, complete respect for itself and others. Therefore it posits in this its subjectivity, the entire internality of the infinite nature which it had thus far filled with God alone. If we ask, with what then is the human heart satisfied in this new grade, the answer is, that the content concerns only the subjective infinite relation to itself; the subject is only satisfied with its individuality, which, in its own view, is of infinite value; the individual attaches little importance to general ideas, interests, acts, or enterprises.

There are in general three feelings which exalt themselves, instead of the subject, to this infinity: subjective honor, love, and fidelity. These are not actual moral properties and virtues, but only forms of the romantic subjectiveness which is filled with its own purposes. The personal self-reliance for which honor combats, does not resemble the valor which displays itself in behalf of a fellow-being, which defends his integrity or his uprightness in private life; it contends, on the

contrary, only for the recognition and the abstract inviolability of the individual subject. Just so love, which forms the centre of this circle, is also only the accidental passion of one person for another; and even if enhanced through fancy, and deepened through fervor, is not yet the ethical relation of marriage and the family. Fidelity has indeed more the appearance of an ethical character, since it is disinterested, and attached to a higher aim, to a mutual interest, since it yields to another will, to the wish or command of a lord, and surrenders the egotism and self-dependence of the individual and special; but fidelity does not address the general good of society, in itself; it attaches itself to the person of the master, who acts for himself, for his particular advantage, or holds together universal relations effectively. These three phases taken together and intertwined, create, without the religious relations which may enter here, the chief content of chivalry, and offer the necessary transition, from the principle of religious fervor, to its entrance into worldly intellectual activity.

Here romantic art now wins a position, from which it may create by itself with an entire independence, and may almost attain to independent beauty: for it stands here in the free middle-ground between the absolute grasp of the (for themselves) strong religious manifestations, and the various particularities and limitations of finitude and worldliness.

Among the particular arts, it is poetry especially that has known how to take possession of this class of ideas most suitably, because it is best fitted to express depth of sentiment, the ends to which the soul aspires, and subjective life in general. Now while we have before us a subject-matter which man obtains from his own heart, from the world of the purely human, romantic art might appear to stand upon the same plane as the classic, and here especially is the place where we may compare the one with the other, and oppose the one to the other.

We have already characterized classic art as the ideal of humanity, which is in itself genuinely objective. Its imagination needs for its centre a content that is of a substantial kind, an included moral pathos. In the poems of Homer, the tragedies of Sophocles and Æschylus, classic art depends

upon interests of merely material value, upon a strong manifestation of passion, fundamentally upon eloquence and execution in conformity to the ideas of the content, and places above the circle of individual self-dependent heroes and personages that exist only in such pathos, a circle of gods of an objectivity still more enhanced.

Even where art becomes more subjective in the many caprices of sculpture, in the bas-reliefs—e.g. in the later elegies, epigrams, and other fanciful creations of lyric poetry—the manner of representing the object is more or less determined by the object itself, which preserves its essential and positive type. There appear imaginary pictures strongly determined in their character, such as Venus, Bacchus, and the Muses; also, in the later epigrams are descriptions of the existing or the known flowers, as Meleager expresses it, which the poet gathers here and there, and ingeniously unites by a sentiment, by a profound idea, into one bouquet. Thus the artist works without constraint in a richly furnished studio abounding in all gifts, forms and supplies ready for every need: he is only the magician who evokes them, collects and arranges them according to his fancy.

The case is quite otherwise in romantic poetry. As far as it is worldly and not immediately included in sacred history, the virtues and motives of its heroes are not the same as those of the Greek heroes, whose morality, rising Christianity regarded only as glittering vice. For the Greek morality presupposes the material manifested presence of humanity, in which the will, deciding and acting according to its own ideas, has arrived at a determined purport, and its realized relations to freedom, which avail absolutely. These are the relations of parents and children, of husband and wife, of citizens in a state where liberty is regulated by positive legislation. While this objective value of the activity, the development of the human mind, pertains to the foundation of the natural as positively acknowledged and assured, it is no longer able to correspond to that concentrated form of the religious which strives to annihilate the natural side of humanity, and is obliged to yield to the opposite virtue of humility, the resigning of human freedom and firm self-dependence.

The virtues of Christian piety, in their abstract possession,

destroy the worldly, and free the subject only when he, in his humanity, absolutely abnegates self. The subjective freedom of the world of chivalry is certainly no longer conditioned upon mere suffering and sacrificing, but is in itself affirmative in the worldly; however, the infinity of the subject has still, as we have already seen, only fervor as such for its content, the subjective nature moving in itself as on its own worldly plane. In this reference, poetry has here no presupposed objectivity before it—no mythology, no sculpture or forms which exist already prepared for its expression. It arises entirely free, immaterial, purely creating and producing; it is like the bird that draws from its melodious breast all the notes of its song. But if subjectivity pertains even to a noble will and profound soul, and yet only capriciousness and contingency enter into its acts and their relations and existence, then freedom and its aims, from which reflection disappears, are wanting in moral nature. And so we do not, in the Greek acceptance, find so much an especial pathos in the individual and exclusive living independence, as only grades of heroism, in reference to honor, love, valor, and fidelity—grades whose chief measure is baseness or nobility of soul.

Bravery, however, is a common possession of the heroes of the middle ages and the heroes of antiquity. But this maintains here quite a different position. It is less the natural courage which depends upon sound ability, upon physical force and skill, or upon the energy of the will, which serves for the accomplishing of objective interests; it arises from the subjectiveness of the mind, from honor, from chivalry, and is, on the whole, fantastic, since it engages in adventures from internal caprice and the contingencies of outward complications, or yields to the impulses of mystic piety, and, in general, to the subjective relation of the individual to himself. This form of romantic art is at home in two hemispheres: in the West, that land of reflection, of concentration, of this return of the mind into its subjective internality; and in the East, where the first expansion of the self-unfolding consciousness to freedom from the finite is accomplished. In the West, poetry depends upon the nature reflected into itself; self has become its centre; yet its worldliness is only one phase, above which stands a still higher world of faith.

In the East, there is the Arab especially, who has before him, as a particular, scarcely anything except his arid wilderness and his cloudless heaven; he steps forth vigorous at the appearance and at the first extension of the worldly, and thereby authenticates his intrinsic freedom.

In general, there exists in the Orient the Mohammedan religion, which has, as it were, purified the way, driven forth all idolatry of the finite and imaginary, but has given to the heart subjective freedom, which entirely satisfies it, so that the worldly creates here not only another sphere, but likewise rises into universal freedom. The heart and mind harmonized in cheerful activity, without realizing God himself objectively, find in themselves an ineffable joy: by this voluntary renunciation they are in the contemplation and glorification of their object, loving, contented, prosperous, and happy.

THE QUARREL.

By A. BRONSON ALCOTT.

Old fables tell us, God made man, then
From his substance woman's self was made;
Rather creative Wisdom first mixed woman
God's art on him e'er since she has essayed.

What if the satyr he and brute, till she
Embrace and shape him by her plastic wit,
So his accomplishments with hers agree,
O'er all his features she herself be writ?

Not man is he, till woman mould him fair,
Strong though he be, and brave, wise overmuch,
Devote to duty, swift to do and dare;
Transforming woman gives the final touch.

Old fables tell us falsely woman's story;
Plainly man made them for his own behoof,
Takes to himself the benefit and glory:—
Be hers the shameful lapse, herself the proof.

Proves he himself the more the weaker sinner
Since with his boasted strength he lower fell;
Stronger is she the silent, she the winner,
Not he who falsely doth her story tell.

PHILOSOPHY IN EUROPE.

In our last number we gave the contents of the first volume of the "Philosophische Monatshefte," published at Berlin. We here continue a translation of the contents of the subsequent volumes, for the information of such as are interested to know what problems are occupying the minds of thinkers in the native land of Philosophy.

Philosophische Monatshefte, Vol. II., 1868, Nos. 1 & 2.—**I.** Friederich Schleiermacher: Ernst Bratuschek and J. Hülsmann. **II.** The Transcendentalism of Arthur Schopenhauer, and the Mysticism of Meister Eckhart—*A. Jones*. **III.** Baader and Schelling—*Fr. Hoffmann*. **IV.** Literary Reviews and Chronicle (Hoffmann, Rosenkranz, and Baader, in an American Journal [retranslation into German of the Letters of Hoffmann and Rosenkranz, from the Jour. Sp. Phil.])

No. 3.—**I.** Continuation from previous number of the article of A. Jones. **II.** The Philosophy of History as the Fundamental Philosophical Science of the Future — *Conrad Hermann*.

No. 4.—**On the Germs of Scientific and Ethical Philosophemes found among the Pre-Socratic Thinkers**—*Dr. M. Schneidewin*. **II.** Hamlet and Faust: A Parallel — *Robert Schellwien*.

No. 5.—**I.** Continuation from previous number of Dr. Schneidewin's article. **II.** Previous Fate of my Investigations into the Theoretical Philosophy of Herbart—*H. Langenbeck*. **III.** Franz v. Baader and Docent Dr. G. Hagemann — *Dr. Hoffmann*.

No. 6.—**I.** Conclusion of Dr. Schneidewin's article on the Pre-Socratic Thinkers. **II.** On the Necessary Completion of the Philosophy of Schopenhauer in accordance with its Fundamental Principle—*E. v. Hartmann*.

Vol. III.—*No. 1.*—**I.** Hegel, Rosenkranz, and Baader — *Franz Hoffmann* [further discussion of the topics of the Letters from the Jour. Sp. Phil.] **II.** Philosophy and its Parts — *Conrad Hermann*.

No. 2.—**I.** Continuation of Dr. Hoffmann's article from previous number. **II.** Discussion of some of the Propositions in

the Programme of the Philosophical Congress at Prague—*P. J. H. Leander*.

No. 3.—I. Dr. Hoffmann's article concluded. II. Christopher Jacob Boström's Philosophy—*Edward Mätzner*. III. On the Origin of Spatial Perceptions through Sight—*W. Windt*.

Nos. 4 & 5.—I. Schelling's Positive Philosophy as Unity of Hegel and Schopenhauer—*E. v. Hartmann*. II. Upon the Present Stand-point of Philosophy; K. S. Bayrholder [lately resident in Greene Co., Wisconsin]: Rejoinder to Dr. Leander's remarks, &c.—*Th. Schliephake*.

No. 6.—I. The Methodics of Philosophical Science—*H. K. Delff*.

Vol. IV.—*No. 1.*—I. Montesquieu and Cartesius—*E. Buss*. II. Philosophy of the Unconscious—*E. v. Hartmann*.

No. 2.—I. On the Significance of the Psychological Analysis of the Idea—*R. Hoppe*. II. Literary Reviews and Chronicle.

No. 3.—I. Dr. Hoppe's article continued. II. The Peculiarity of History as a Philosophical Problem of the Present—*Conrad Hermann*.

No. 4.—I. The True God to be Proved from Every Side—*Melchior Meyr*. II. Dr. Bayrholder's article on Present Stand-point, &c., continued.

No. 5.—I. Dr. Bayrholder's article concluded.

No. 6.—I. Trendelenburg's Logical Investigations and their Opponents—*A. L. Kym*.

Each number contains a large list of book notices, under the head of Literary Review. Most have been omitted here.

BOOKS RECEIVED.

AMERICAN RELIGION. By John Weiss. Boston: Roberts Brothers, 1871. Contents: I. Right Mental Method; II. America's Debt; III. The American Opportunity; IV. The Divine Immanence; V. The Law of the Divine Immanence; VI. A Divine Person; VII. An American Atonement; VIII. False and True Praying; IX. Strife and Symmetry; X. A Conscience for Truth; XI. Constancy to an Ideal; XII. The American Soldier.

DESCRIPTION OF A NOTATION FOR THE LOGIC OF RELATIVES, resulting from an Amplification of the Conceptions of Boole's Calculus of Logic. By C. S. Peirce. (Extracted from the Memoirs of the American Academy, vol. IX.) Cambridge: Welch, Bigelow & Co., 1870.

NOTES EXPOSITORY AND CRITICAL ON CERTAIN BRITISH THEORIES OF MORALS. By Simon S. Laurie, A. M. Edinburgh: Edmonston & Douglas. Contents: (1) Thomas Hobbes; (2) Lord Shaftesbury; (3) Francis Hutcheson; (4) Bishop Butler; (5) *Transition*, David Hume; (6) Jeremy Bentham; (7) John Stuart Mill; (8) Professor Bain.

ON THE PHILOSOPHY OF ETHICS; An Analytical Essay. By Simon S. Laurie. Edinburgh: Edmonston & Douglas, 1866. Contents:—Chap. I. Attempt to Separate the Essential Characteristic of the So-called "Conscience" or "Moral Sense," &c.; Chap. II. Is the Feeling of Complacency a Discriminator of Rightness in Acts? &c.; Chap. III. Explanation of the Phrase, "Happiness of Man," &c.; Chap. IV. What is the Criterion of Right and Wrong in Subjective Acts? Chap. V. Ends and Motives; Chap. VI. Controversion of the Doctrine that Right is Discriminated by an Arbitrary, Inner Sense; Chap. VII. Distinction between Rightness of Acts and Morality of the Agent, &c.; Chap. VIII. The Sanctions of Right; Chap. IX. On the Sense of Inner Law; Chap. X. The Immutability of Morality; Chap. XI. The Moral Sentiments; Chap. XII. Gradation of Felicities and Sentiments—Supremacy of Sentiment of Justice; Chap. XIII. The Supreme Good; Chap. XIV. On Justice; Chap. XV. Statement of Relative Position.

DIE VERFASSUNG DER CHRISTLICHEN KIRCHE und der Geist des Christenthums. Blitz-Strahl wider Rom, von Franz von Baader, aus den Jahren 1838–40. In besonderer schrift an das Licht gestellt auf Veranlassung des vom Papst auf den 8. Dezember 1869, ausgeschriebenen Concils. Erlangen, Verlag von Andreas Deichert. 1870.

A NEW VIEW OF CAUSATION. By Thomas Squire Barrett. London: Provost & Co., 36 Henrietta st., Covent Garden. 1871.

CONTRIBUTIONS TO CREOLE GRAMMAR. By Addison Van Name, Librarian of Yale College. (Pamphlet of 45 pages, reprinted from the Transactions of the American Philological Association, 1869–70.)

From Moritz Müller, Sen., of Pforzheim, Germany, the following printed articles: 1. NOCH EINMAL GOETHE; 2. AUF DREI LOBENDE BEURTHEILUNGEN EIN TADEL; 3. SPECULATIVE RECLAMEN NACH EMPIRISCH BEWÄHRTER METHODE; 4. GEGEN DEN MATERIALISMUS; 5. EINE EINWENDUNG GEGEN EINEN GROSSEN GELEHRTEN; 6. ANTI RUDOLPH GOTSCHALL UND JULIUS FRAUENSTADT zur Vertheidigung der Persönlich bewussten Fortdauer nach dem Tode; 7. "DARAN ERKENNE ICH MEINE PAPPENHEIMER"; 8. JACOBY'S VERHAFTUNG; 9. WAS BEDEUTEN DIESE TAGE; 10. VERSCHIEDENE RICHTS-ANSCHAUUNGEN.

IN MEMORIAM. Samuel J. May. Syracuse, 1871.

THE ITALIAN REFORM MOVEMENT in the Church of Rome, as understood by the Italians. By Pierce Connelly, M. A., Rector of the American Prot. Epis. Church of Florence. Florence and London, 1870.

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